

Energy Systems
Management Control

Subject: Occurrence Notification and Reporting

Date

Approvals:

Date

Date

Date

This procedure has been reviewed by an Authorized Derivative Classifier and has been determined to be UNCLASSIFIED. This review does not constitute clearance for public release.

Effective Date

Subject: Occurrence Notification and Reporting
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TABLE OF CONTENTS

PURPOSE	4
APPLIES TO	4
REFERENCES	4
WHAT TO DO	5
A. Identification of Adverse Events or Conditions	5
B. Categorization Determination	6
C. Oral Notifications	7
D. Notification Report Preparation	7
E. Investigation and Analysis	8
F. Update Report Preparation	8
G. Final Report Preparation	9
H. Rejected Final Reports	10
I. Implementing Corrective Actions	11
J. Utilization of Occurrence Information	12
K. Training	12
L. Miscellaneous Requirements	12
RECORDS	12
APPENDIXES	12
A. Definitions	13
B. LMES Y-12 Categorization Matrix	18
C. Roll-up Report Criteria	54
D. Occurrence Report Template	56
E. Occurrence Report Route Slip for Update Report	68
F. Occurrence Report Route Slip for Final Report	69

Subject: Occurrence Notification and Reporting

REVISION LOG

Revision Date	Description of Change	Affected Pages
09/10/98	This procedure is a new procedure to completely revise and to consolidate Energy Systems Procedure OP-301, "Occurrence Notification and Reporting," with Y10-192, "Occurrence Reporting," and modify per revised DOE Order 232.1A. PMR 98-NSO-002	All
03/01/99	Intent change to address Department of Energy (DOE) comments/requests for clarification. Page 7, add step C.5 that Facility Rep is to be notified within 2 hours on recategorization. Page 9, added "or within the estimated completion date set forth in a previous Update Report" for clarification. Page 14, clarified what personnel constitute facility staff. Page 15, added definition of operator. Page 16 and 17, added "Approved Authorization Basis." This replaced the incorrect "safety analyses DOE 5480.23. Page 18, added first sentence from DOE M 232.1-1A and site-specific guidance as clarification. Page 54, clarified step. Page 55, clarified step. Appendix B, deleted TEMA from "Special Notification." TEMA notification to be governed by REP-IP-117, <i>Offsite Notifications</i> . PMR 99-NSO-001	6, 7, 9, 15, 16, 17, 18, 54, 55, Appendix B

Subject: Occurrence Notification and Reporting
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PURPOSE

This procedure establishes the occurrence notification and reporting process to be accomplished for compliance with Department of Energy (DOE) Order DOE O 232.1A, "Occurrence Reporting and Processing of Operations Information." The process includes requirements for timely identification, categorization, notification, evaluation, correction, and reporting to management and DOE of occurrences.

APPLIES TO

The requirements of this procedure apply to Energy Systems employees, activities, programs, installations, and organizations. Occurrences involving subcontractors, vendor service personnel or visitors are the responsibility of the Energy Systems contracting or host organization. This procedure is effective upon issuance.

Non-conformance's attributable to sources external to Energy Systems are generally excluded from the requirements of this procedure.

Deviations to this procedure shall be requested in writing and approved by the Occurrence Reporting Functional Area Manager in advance of the deviation. Interpretations of this procedure are the sole responsibility of the Functional Area Manager.

Suspect/Counterfeit items and shipments received from non-DOE shippers that are not in compliance with Department of Transportation regulations are subject to the reporting requirements of this procedure.

REFERENCES

- 40 CFR Table 302.4, "*List of Hazardous Substances and Reportable Quantities*"
- 40 CFR Table 117.3, "*Reportable Quantities of Hazardous Substances Designed Pursuant to Section 311 of the Clean Water Act*"
- 40 CFR 355, Appendix A, "*The List of Extremely Hazardous Substances and their Threshold Planning Quantities*"
- DOE Order 232.1A, "*Occurrence Reporting and Processing of Operations Information*"
- DOE Manual 232.1-1A, "*Occurrence Reporting and Processing of Operations Information*"
- ES-EMPO-504, "*Oak Ridge Y-12 Site Emergency Action Level (EAL) Classification Guide*"
- EMPO-500, "*Oak Ridge Reservation Emergency Plan*"
- REP-IP-117, "*Offsite Notifications*" (for facilities on the Oak Ridge Reservation)
- QA-312, "*Issues Management Program*"
- QA-313, "*Root Cause Analysis*"
- QA-331, "*Lessons Learned Program*"
- LMES Y-12, "*Nuclear Operations Conduct of Operations Manual*"

Subject: Occurrence Notification and Reporting
--

WHAT TO DO

A. Identification of Adverse Events or Conditions

NOTE: Oral notification, computer system input, and written documentation concerning occurrences is subject to the classified, Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), and Unclassified Sensitive (U-S) requirements provided in the Lockheed Martin Energy Systems, Inc., (LMES) *“Manual for the Protection and Control of Classified and Other Protected Information”* (ES/PSO-1). Proper review of data must be performed prior to transmission and dissemination (orally or in writing). The Energy Systems Action Management System (ESAMS) and the DOE Occurrence Reporting and Processing System (ORPS) are unclassified data systems. No classified, Unclassified Controlled Nuclear Information (UCNI), [Unclassified National Security Related Information (UNSR) or Unclassified-Sensitive (U-S) matter] is to be placed on these data systems. If classified, UNSR, UCNI, or U-S operations/information exists or is generated at the facility, then all information included on the occurrence report shall be reviewed by an Authorized Derivative Classifier (ADC), the Classification Office, or an Authorized UCNI Reviewing Official prior to dissemination or entry on any electronic system. The data must be protected at the highest possible level of classification or as potential UCNI until the data is reviewed and may not be provided to individuals without the need to know the information or the appropriate security clearance.

Employees

1. Report any actual or potentially adverse event/condition to the Plant Shift Superintendent's (PSS) Office or to facility supervision immediately upon identification.

Facility Supervision

2. Be available to perform the duties assigned by this procedure.
3. Initiate, as appropriate, additional actions necessary to mitigate or control the event/condition.
4. Ensure that events/conditions are reported to the PSS.
5. Secure the scene of the event/condition, as appropriate, to protect relevant evidence and information for any subsequent investigation.
6. Provide preliminary information on the event/condition to the Facility Manager or to the PSS.

PSS

7. Initiate appropriate response actions to stabilize the event/condition or to return the facility/operation/activity to a safe condition.
8. Notify the responsible Facility Manager of the event/condition.
9. IF other DOE prime contractors could be involved, THEN notify the appropriate prime contractor management.

Subject: Occurrence Notification and Reporting

B. Categorization Determination**Facility Manager**

1. Categorize events/conditions in accordance with Y14-192, Appendix B, "*Lockheed Martin Y-12 Occurrence Reporting Categorization Matrix*," and within the following time periods:
 - Emergency Action Levels established in accordance with ES-EMPO-504, "*Y-12 Site Emergency Action Level (EAL) Classification Guide*"
 - Emergencies within 15 minutes of the time of discovery
 - Operational emergencies within 30 minutes of the time of discovery
 - Other occurrences as soon as practical, but, in all cases, within two hours of time of discovery.
2. Determine if the event is reportable under the criteria for a Roll-Up Report. (See Appendix C.)
3. IF the proper category is initially not clear, THEN categorize the occurrence at the highest category that may apply.

The occurrence category may be elevated, maintained, or lowered in an Update Report as additional information becomes available.
4. Determine need for additional evaluation and follow-up for events which are determined to be non-reportable occurrences.
5. Initiate investigation of the occurrence, using a graded approach based on the severity or risk associated with the event/condition.

Should a Type A or Type B Investigation, as defined by DOE Order O 225.1, "*Accident Investigation*", be required, defer to the requirements of that document for investigation of the occurrence.
6. Compile initial information associated with the occurrence and have the information reviewed for classified, UNSR, UCNI, or U-S matter.

This information should be used to assist in conducting oral notifications and compiling the occurrence Notification Report. Fact sheets may also be prepared.

OR Staff

7. Assist the Facility Manager in determining categorization.

Subject: Occurrence Notification and Reporting

C. Oral Notifications

NOTE: A review for classified, Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), and Unclassified Sensitive (U-S) information must be performed prior to oral or written notifications to ensure the information is adequately protected. Oral notification of occurrences involving classified, UNSR, UCNI, and U-S shall **ONLY** be made over secure lines and provided to individuals who possess the need to know the information and the appropriate security clearance.

PSS

1. On behalf of the Facility Manager, provide initial notifications to the DOE-ORO EOC, the DOE-Headquarters (HQ) EOC and other offsite organizations and agencies as soon as possible, but, in all cases, within the following time frames:
 - Emergency - within 15 minutes of categorization
 - Operational emergencies within 30 minutes of the time of discovery
 - Unusual - within 2 hours of categorization. Notify TEMA within 2 hours of categorization for those events defined in REP-IP-117, *Offsite Notifications*
 - Off-Normal - unless directed by DOE or as defined in REP-IP-117, *Offsite Notifications*
 - REP-IP-117, *Offsite Notifications* defines notification requirements for Energy Systems organizations on the Oak Ridge Reservation.
2. Include in the initial notifications to DOE as many items from the Notification Report as are available at the time.
3. On behalf of the Facility Manager, make follow-up oral notification to DOE and required agencies (see Section C Note) within the required time frames if any of the following occurs:
 - Further degradation of the facility safety level.
 - Worsening of facility conditions (including those that require declaration of an emergency, if an emergency was not previously declared).
 - Any change in either the emergency class or the occurrence category (e.g., upgrading an Off-Normal to Unusual).
 - Termination of an emergency.
4. Assist the PSS with notifications.
5. Notify Facility Representative within two (2) hours when the following occurs:
 - categorization of any unusual occurrence.
 - recategorization of an off-normal occurrence to an unusual occurrence.

**Facility Manager/
Designee**

Subject: Occurrence Notification and Reporting
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D. Notification Report Preparation

NOTE: The information compiled for the notification report preparation must be protected at the highest possible classification level or as potentially containing Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), and Unclassified Sensitive (U-S) information until a review determination is performed. Only those individuals who possess the need to know the information and, if classified, the appropriate security clearance may be granted access to the data. The information must be protected in accordance with the LMES *“Manual for the Protection and Control of Classified Matter and Other Protected Information”* (ES/PSO-1).

Facility Manager

1. Compile the Notification Report using the Occurrence Report template (Appendix D).

Names of individuals should not be uniquely identified in the narrative sections of the occurrence report. References to vendors, subcontractors, other companies or contractors, or their products/services should be avoided where possible.
2. Obtain appropriate management reviews of the Notification Report.
3. Obtain an Authorized Derivative Classifier (ADC) review, as applicable.
4. Ensure transmittal of the Notification Report to ORPS by the close of the next business day (not to exceed 80 hours) from the time of categorization.
5. Ensure distribution of copies of the Notification Report as specified by management.
6. Compile initial information in evidence files.

OR Staff

7. Assist Facility Manager

E. Investigation and Analysis

NOTE: *Chapter 6, “Accident Investigations,” of the LMES Y-12 “Nuclear Operations Conduct of Operations Manual” should be used when performing steps in this section.*

Facility Manager

1. Utilizing a graded approach, ensure the analysis and investigation of the occurrence is conducted.
2. Compile information associated with the analysis and investigation.
3. IF any changes in categorization are determined or if significant or new information becomes available, THEN
 - provide follow-up oral notifications using the criteria defined in Section C.
 - prepare an Update Report (see Section F).
 - ensure transmittal of an Update Report to ORPS by the close of the next business day (not to exceed 80 hours) from the time of recategorization.

OR Staff

4. Assist Facility Manager, as requested.

Subject: Occurrence Notification and Reporting

F. Update Report Preparation**Facility Manager**

1. If one of the following situations exist, THEN prepare an Update Report:
 - Significant or new information about the occurrence is identified,
 - Occurrence is recategorized,
 - Additional occurrences added to a roll-up report, or
 - Final Report cannot be completed within 45 calendar days after categorization or within the estimated completion date set forth in a previous Update Report.
2. Ensure compilation of additional information using the Occurrence Report template (Appendix D).
3. IF the Update Report is being submitted due to a recategorization of the occurrence or to provide significant new information, THEN provide an explanation in the "Evaluation by Facility Manager" field on the Occurrence Report.
4. IF the Update Report is being submitted due to a delay in the submittal of the Final Report, THEN provide an explanation of the delay and the estimated completion date in the "Evaluation by Facility Manager" field on the Occurrence Report.
5. Obtain appropriate management reviews of the Update Report. (See Appendix E.)
6. Obtain an Authorized Derivative Classifier (ADC) review, authorized UCNI Review Official, and/or Classification Office/TIO) review, as applicable.
7. Ensure transmittal of the Update Report to ORPS by the close of the next business day (not to exceed 80 hours) from the time of recategorization or identification of additional occurrences to be included in a Roll-Up Report.
8. Ensure distribution of copies of the Update Report as specified by management.
9. Compile information in evidence files.

OR Staff

10. Assist Facility Manager as requested.

G. Final Report Preparation**Facility Manager**

1. Ensure completion of the investigation and analysis of the occurrence.
2. IF it is determined that an occurrence no longer meets the criteria for a reportable occurrence, THEN
 - Have the occurrence voided in ESAMS,
 - Document the basis for cancellation in the "Evaluation by Facility Manager" field on the Occurrence Report,
 - Ensure the Final Report is transmitted to ORPS designating the occurrence as Canceled.

Subject: Occurrence Notification and Reporting
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G. Final Report Preparation (cont.)

3. Prepare the Final Report, ensuring the following conditions are satisfied:
 - the significance, nature, and extent of the event or condition are determined.
 - the cause(s) of the event or condition, including the root cause, are determined,
 - the lessons learned and generic implications from the event or condition have been identified and communicated, and
 - corrective action(s) to correct and prevent recurrence are defined and scheduled.
4. Ensure corrective actions are defined and documented per the Issues Management Program.
5. Ensure entry of Final Report and associated information in ESAMS.
6. Compile results of investigation and analysis for evidence files.
7. Obtain appropriate management reviews of the Final Report. (See Appendix F.)
8. Obtain Authorized Derivative Classifier (ADC), authorized UCNI Review Official, and/or Classification Office/TIO review, as applicable.
9. Obtain Technical Information Office (TIO) review.
10. Ensure transmittal of the Final Report to ORPS within 45 calendar days from the time of categorization.
11. Ensure distribution of copies of the Final Report as specified by management.
12. IF the occurrence involves classified Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), or Unclassified Sensitive (U-S) information,
THEN provide classified, UNSR, UCNI, or U-S versions of the Final Report to the DOE Facility Representative and the DOE Program Manager, according to guidelines established in the *"LMES Manual for the Protection and Control of Classified Matter and Other Protected Information"* (ES/PSO-1).

Subject: Occurrence Notification and Reporting
--

G. Final Report Preparation (cont.)

13. Monitor ORPS to determine approval status of the Final Report.

OR Staff

14. Assist the Facility Manager as requested.

H. Rejected Final Reports**Facility Manager**

1. If the Final Report is rejected by either the DOE Facility Representative or Program Manager, determine the reasons for rejection.

Discussions with the appropriate DOE Facility Representative and/or DOE Program Manager may be necessary to determine acceptable resolution.
2. Determine need for additional investigation and analysis.
3. Prepare and ensure transmittal of a revised Final Report to ORPS within 21 calendar days of the report's rejection, as per Section G.
4. IF the revised Final Report cannot be resubmitted within 21 days, THEN submit an Update Report within 21 days explaining the delay and an estimated date for resubmittal of the Final Report in the "Evaluation by Facility Manager" field on the Occurrence Report.

I. Implementing Corrective Actions**Facility Manager**

1. Implement corrective actions as defined in the Final Report.
2. Ensure the status of corrective actions is correctly maintained in both ESAMS and ORPS.
3. Verify that corrective actions are completed as planned.
4. Document evidence of closure of corrective actions.

J. Utilization of Occurrence Information**Facility Manager**

1. Coordinate the dissemination of a Lessons Learned Report.
2. Review information from other occurrences to identify good practices and lessons learned from other facilities.
3. Perform trend analyses of facility occurrences to identify potentially adverse trends and conditions.

Subject: Occurrence Notification and Reporting

K. Training

- | | |
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| OP/OR Functional Area Manager | 1. Develop and conduct training to support implementation of the requirements of the Occurrence Reporting Program. |
| Facility Manager | 2. Ensure that employees assigned occurrence reporting responsibilities receive training commensurate with the performance of those responsibilities. |
| Center for Continuing Education | 3. Maintain training records for Occurrence Reporting Program-related training. |

L. Miscellaneous Requirements

- | | |
|--------------------------------|--|
| Functional Area Manager | 1. Perform periodic evaluations and assessments of implementation of the Occurrence Reporting Program.

2. Ensure facility-specific categorization criteria is defined.

3. Ensure facility information is maintained in ORPS.

4. Review and approve access for Facility Managers to ORPS.

5. Revise implementing procedures and submit to the appropriate DOE Secretarial Office within 4 months of incorporation of the requirements in the Contractor Requirements Document (CRD) into new or existing contracts. |
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RECORDS

The following records shall be generated and maintained according to established Energy Systems records management practices and approved records inventory and disposition schedules. Access, storage and protection requirements contained in the LMES *"Manual for the Protection and Control of Classified Matter and Other Protected Information"* (ES/PSO-1) must be met for records containing classified, Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), or Unclassified Sensitive (U-S) information.

Facility Manager

Records pertinent to the occurrence, such as transactions, logs, statements, investigator's notes, fact sheets, critique notes, root cause analysis results, laboratory analyses, and other documents referenced in the occurrence report.

OR Staff

Original, signed Notification, Update, and Final Reports.

APPENDIXES

- A. Definitions
- B. LMES Y-12 Categorization Matrix
- C. Roll-up Report Criteria
- D. Occurrence Report Template
- E. Occurrence Report Route Slip for Update Report
- F. Occurrence Report Route Slip for Final Report

Subject: Occurrence Notification and Reporting
--

APPENDIX A
Definitions
Page 1 of 5

Authorized Derivative Classifier (ADC): An individual who is authorized to determine that documents and/or material are (a) unclassified or (b) classified as Restricted Data, Formerly Restricted Data, or National Security Information in accordance with existing guidance or source documents. An ADC may or may not be an authorized Unclassified Controlled Nuclear Information (UCNI) Reviewing Official; these are two separate functions.

Authorized Unclassified Controlled Nuclear Information (UCNI) Reviewing Official: An individual authorized by the Department of Energy (DOE) or the Sites' Classification Office to determine that a document contains UCNI. An authorized UCNI Reviewing Official may or may not be an Authorized Derivative Classifier (ADC); these two are separate functions.

Business Day: The normal administrative day (e.g., Monday through Friday, 0800 to 1700) in which normal work activities are conducted. It is not meant to encompass the 24 hours in a day, even if the facility is operated or maintained on a 24 hour basis.

Classified Matter: Any combination of documents and material containing classified information.

Condition: Any as-found state, whether or not resulting from an event, which may have adverse safety, health, quality assurance, security, operational or environmental implications. A condition is more programmatic in nature. For example, an error in analysis or calculation; an anomaly associated with design or performance; or an item indicating a weakness in the management process are all conditions.

Defective Item, Material, or Service: Any item, material, or service that does not meet the commercial standard or procurement requirements as defined in catalogues, proposals, procurement specifications, design specifications, testing requirements, contracts, or the like. It includes those items or services found, during acceptance testing, preoperational testing, operations, inspections, or audit, not to meet the quality or reliability requirements appropriate to the use or specificity of the item or service procured. It also includes misrepresentation of the specifications or trademarks associated with the parts/service marking, packaging, or certification/identification stamps. It does not include parts or services which fail or are otherwise found to be inadequate because of random failures or errors within the accepted reliability level.

Emergency: Defined in DOE Order 151.1, and EMPO-500, "Oak Ridge Reservation Emergency Plan."

Energy Systems Action Management System (ESAMS): A central tracking and trending database used by Lockheed Martin Energy Systems for the tracking of commitments and action items.

Event: Something significant and real-time that happens (e.g., pipe break, valve failure, loss of power, environmental spill, earthquake, tornado, flood).

Facility: Any equipment, structure, system, process, or activity that fulfills a specific purpose. Examples include accelerators, storage areas, fusion research devices, nuclear reactors, production or processing plants, coal conversion plants, magnetohydrodynamics experiments, windmills, radioactive waste disposal systems and burial grounds, environmental restoration activities, testing laboratories, research laboratories, transportation activities, and accommodations for analytical examinations of irradiated and unirradiated components.

Facility Manager: That individual, or designee, usually but not always a contractor, with direct line responsibility for operation of a facility or group of related facilities, including authority to direct physical changes to the facility. For purposes of this procedure, a Facility Manager could also be responsible for a program or activity.

Subject: Occurrence Notification and Reporting

APPENDIX A

Page 2 of 5

Facility Representative: For each major facility or group of lesser facilities, an individual or designee assigned responsibility by the Head of Field Element/Operations Organization for monitoring the performance of the facility and its operations. This individual should be the primary point of contact with the facility operating personnel and will be responsible to the appropriate Secretarial Officer and Head of Field Element/Operations Organization for implementing the requirements of this Manual.

Facility Staff: Personnel employed at the facility who assist the facility manager in carrying out the assigned task(s) of the facility. This includes facility supervision and operators as defined in this procedure.

Federally Permitted Release: Any release that satisfies the definition of "federally permitted release" in 40 CFR 302.3.

Hazardous Substance or Material:

- a. Department of Energy Office of Safeguards and Security Hazardous Material. Any solid, liquid, or gaseous material that is chemically toxic, flammable, radioactive, or unstable upon prolonged storage, and that exists in quantities that could pose a threat to life, property, or the environment.
- b. Department of Transportation Hazardous Materials (see 49 CFR 171.8 and 172.101). A substance or material, including a hazardous substance, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce and which has been so designated.
- c. Comprehensive Environmental Response, Compensation and Liability Act Hazardous Substances (see 40 CFR 302).
- d. Occupational Safety and Health Administration (OSHA) Hazardous Chemical (see 29 CFR 1910.1000 and 29 CFR 1910.1200). Any chemical which is a physical or a health hazard.
- e. Superfund Amendments and Reauthorization Act Title 3 Extremely Hazardous Substances (see 40 CFR 355). These are not defined but appear on a list in Appendix A and B of 40 CFR 355.

Item:

- a. An all-inclusive term used in place of the following: appurtenance, sample, assembly, component, equipment, material, module, part, structure, subassembly, subsystem, system, unit, or support systems, documented concepts, or data.
- b. When used in reference to nuclear material, a visible, single piece or container of nuclear material with a unique identification and known nuclear material mass.

Lessons Learned: A "good work practice" or innovative approach that is identified and shared, or an adverse work practice or experience that is shared to avoid recurrence.

Lost Workdays: The number of days (consecutive or not) after, but not including, the day of injury or illness during which the employee would have worked but could not do so; that is, could not perform all or any part of their normal assignment during all or any part of the workday or shift because of the occupational injury or illness.

Subject: Occurrence Notification and Reporting
--

APPENDIX A

Page 3 of 5

Member of the Public: Persons who are not occupationally associated with the DOE facility or operations, i.e., persons whose assigned occupational duties do not require them to enter the DOE site.

Near Miss: A narrowly avoided condition that has the potential for adversely affecting personal safety, the environment, or safety equipment. A near miss to one of the preceding reporting categories occurs when there are no remaining barriers (e.g., physical, administrative, and procedural controls) or the single last remaining barrier prevents an unwanted condition and ensuing events cannot be foreseen or adequately controlled.

Nonreactor Nuclear Facility: Those activities or operations that involve radioactive and/or fissionable materials in such form and quantity that a significant nuclear hazard potentially exists to the employees or the general public. Included are activities or operations that: (1) produce, process, or store radioactive liquid or solid waste, fissionable materials, or tritium; (2) conduct separations operations; (3) conduct irradiated materials inspection, fuel fabrication, decontamination, or recovery operations; (4) conduct fuel enrichment operations; or (5) perform environmental remediation or waste management activities involving radioactive materials. Incidental use and generation of radioactive materials in a facility operation (e.g., check and calibration sources, use of radioactive sources in research and experimental and analytical laboratory activities, electron microscopes, and X-ray machines) would not ordinarily require the facility to be included in this definition. Accelerators and reactors and their operations are not included. The application of any rule to a nonreactor nuclear facility should be applied using a graded approach.

Notification Report: The initial documented report, to the Department, of an event or condition that meets the reporting criteria defined in the Occurrence Reporting Requirements Documents. The Notification Report consists of fields 1-19 and 25 of the Occurrence Report (see Appendix B).

Nuclear Facility: Reactor and nonreactor nuclear facilities.

Occurrence: An event or a condition that adversely affects, or may adversely affect, DOE or contractor personnel, the public, property, the environment, or the DOE mission. Events or conditions meeting the criteria threshold identified in Appendix B.

Occurrence Report: A documented evaluation of an event or condition that is prepared in sufficient detail to enable the reader to assess its significance, consequences, or implications, and to evaluate the actions being proposed or employed to correct the condition or to avoid recurrence (see Appendix C).

Occurrence Reporting and Processing System (ORPS): An unclassified, centralized DOE database containing Occurrence Reports from the DOE community.

Offsite Transportation Event: Involves movement of materials which are considered to be in commerce, thus requiring compliance with Department of Transportation Hazardous Materials Regulations.

Oil: Oil of any kind or in any form, including but not limited to petroleum, fuel oil, sludge, oil refuse and oil mixed with wastes other than dredged spoil.

Onsite Transportation Event: Movement of materials not in commerce and subject to DOE onsite procedures and safety requirements.

Operator(s): Personnel performing work or tasks to support facility operations. Operators may not be formally trained in occurrence reporting, and are not required to maintain logs for the purposes of this procedure.

Subject: Occurrence Notification and Reporting
--

APPENDIX A

Page 4 of 5

Performance Degradation: Failure or degradation of a facility, process, system, or component that reduces the reliability of critical components of the facility whose loss or degradation prevents the system from performing its intended function. Performance degradation does not include: (1) A burned out power indicator light on a piece of radiation monitoring equipment which does not prevent the equipment from detecting elevated radiation levels and alarming as designed; (2) A piece of equipment that is determined to be out of calibration on the conservative side (such as a low level alarm that alarms at a higher value than it should); or (3) the temporary loss of a component where redundant components are maintained operable or in operation and the authorization basis is not compromised.

Primary Confinement: Provides confinement of hazardous material to the vicinity of its processing. This confinement is typically provided by piping, tanks, glove boxes, encapsulating material, and the like, along with any offgas systems that control effluent from within the primary confinement.

Primary Environmental Monitors: Monitoring equipment required to legally monitor ongoing discharges. In general, this term applies to monitors used closest to the point of discharge to determine if discharges are within specified limits. It also includes any equipment that actuates automatically in response to set level signals from such a monitor. It does not include equipment in general area, remediation, or compliance monitoring programs.

Program Manager: The Headquarters individual or designee, designated by and under the direction of a Secretarial Officer, who is directly involved in the operation of facilities under his or her cognizance, and holds signature authority to provide technical direction through Heads of Field Element/Operations Office Organizations to contractors for these facilities.

Release: Any spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or otherwise disposing of substances into the environment. This includes abandoning/discarding any type of receptacle containing substances in an unenclosed containment structure but does not include permitted containment structures.

Reportable Occurrence: Events or conditions to be reported in accordance with the criteria defined in the LMES Occurrence Reporting Categorization Matrix (see Appendix C).

Reportable Quantity: For any Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) hazardous substance, including radionuclides and Superfund Amendments and Reauthorization Act Title 3 extremely hazardous substances, with quantities established in 40 CFR Part 302 and Part 355 respectively, the release of which requires notification unless federally permitted.

Safety Class Structures, Systems, or Components (Safety Class SSCs): Nuclear facility systems, structures, or components including primary environmental monitors and portions of process systems, whose failure could adversely affect the environment or safety and health of the public identified by safety analyses (DOE 5480.23) as identified in Approved Authorization Basis documentation.

Subject: Occurrence Notification and Reporting

APPENDIX A

Page 5 of 5

Safety Significant Structures, Systems, or Components (Safety Significant SSCs):

- a. Nuclear facility structures, systems, or components not designated as Safety Class SSCs but whose preventative or mitigative function is a major contributor to defense in depth (i.e., prevention of uncontrolled material release) and/or worker safety as determined from hazard analysis (DOE-STD-3009-94) as identified in Approved Authorization Basis documentation.
- b. Nonnuclear facility structures, systems, or components whose preventative or mitigative function is a major contributor to defense in depth (i.e., prevention of uncontrolled hazardous material release) and/or worker safety.

NOTE: Safety Significant SSC, as used in this procedure, distinguishes a specific category of SSCs other than Safety Class SSCs. It should not be confused with the generic modifier "safety significant" used in DOE Orders (e.g., DOE 5480.23).

Service: The performance of work, such as design, construction, fabrication, inspection, nondestructive examination/testing, environmental qualification, equipment qualification, repair, installation, or the like.

Substantial Safety Hazard: A loss of safety function to the extent that there is a major reduction in the degree of protection provided to public or worker health and safety.

Supplier: An organization furnishing items or services. An all-inclusive term used in place of any of the following: vendor, seller, contractor, subcontractor, fabricator, distributor, consultant, or subtier suppliers.

Tennessee Emergency Management Agency (TEMA): The agency in Tennessee designated as the 24 hour contact for emergency and event notifications. Operates from the State Emergency Operation Center.

Time of Discovery: The time when the facility staff discovered the event or condition being reported as an occurrence.

Transportation Event: Any real-time occurrence involving any of the following transportation activities: material classification, packaging, marking, labeling, placarding, shipping paper preparation, loading/ unloading, separation/segregation, blocking and bracing, routing, accident reporting, and movement of materials. Transportation events with injury(s) may also require reporting in accordance with Group 3 criteria.

Unclassified Controlled Nuclear Information (UCNI): Certain unclassified government information prohibited from unauthorized disclosure under Section 147 of the "Atomic Energy Act of 1954," as amended, and DOE 471.1, "Identification and Protection of Unclassified Controlled Nuclear Information."

Unclassified National Security Related Information (UNSR): Information that has been determined to be unclassified, but includes specifically defined elements which require mandatory protective measures. These specifically defined elements include: Export Controlled Information (ECI), Naval Nuclear Propulsion Information (NNPI), Safeguards Information (SI), Sensitive Nuclear Technology (SNT), and Unclassified Controlled Nuclear Information (UCNI).

Unclassified Sensitive Information (U-S): Data for which disclosure, loss, misuse, alteration, or destruction could adversely affect national security or government interests. The elements of Unclassified Sensitive Information includes Applied Technology (AT), Cooperative Research and Development Agreement (CRADA) Information, Official Use Only (OUO), Privacy Act (PA) Information, Proprietary Information (PI), and Confidential/Foreign-Government-Modified Handling (C/FGI-MOD).

APPENDIX B
LMES Y-12 Categorization Matrix

Group 1: Facility Condition

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Nuclear Criticality Safety (1A)	1A-UO(1)	Violation of the double contingency criticality specifications such that no valid controls are available to prevent a criticality accident.	X			
	1A-ON(1)	Any nuclear criticality safety violation or infraction of procedures not covered by other reporting criteria. For example, violation of a single contingency such that only one valid criticality control remains in place.		X		Reportable events include only nuclear criticality safety violations or infractions of procedures not covered by other reporting criteria which result in only one valid criticality control remaining in place.
Fires/Explosions (1B)	1B-UO(1)	Any fire or explosion within primary confinement/containment boundaries of a nuclear facility.	X		LMC – Accidents or incidents not involving injuries, but, constituting an imminent threat to personnel safety or continuity of operations	
	1B-ON(1)	Any fire or explosion not required to be reported as an Unusual Occurrence that activates a fire suppression system (e.g., halon discharge, sprinkler heads activating) or disrupts normal facility operations.		X		
	1B-ON(2)	An unplanned fire that takes longer than 10 minutes to extinguish following the arrival of fire protection personnel; this does not include fires that do not disrupt normal facility operations and which are in the initial or beginning stage that can be controlled or extinguished by portable fire extinguishers, Class II standpipe, or small hose systems without the need for protective clothing or breathing apparatus.		X		
Safety Status Degradation (1C)	1C-UO(1)	Any violation or noncompliance of an approved Technical Safety Requirement (Technical Specification or Operational Safety Requirement) or other operational safety limit defined by the contractor/DOE.	X			
	1C-UO(2)	Discovery of an incorrectly derived Technical Safety Requirement (Technical Specification or Operational Safety Requirement) or other operational safety limit defined by the contractor/DOE.	X			
	1C-UO(3)	Any operation outside the authorization basis of the facility or process.	X			

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 18 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	1C-UO(4)	Any occurrence that would prevent immediate facility or offsite emergency response capabilities.	X			
	1C-UO(5)	Discovery of an actual Unreviewed Safety Question (USQ) which reveals a currently existing inadequacy in the approved authorization basis.	X			
	1C-ON(1)	Discovery of a condition that leads the facility operating personnel to limit facility operations, either self-imposed or due to the identification of a potential degradation of the authorization bases of a facility or process. This includes the discovery of analytical errors, omissions, or inadequacies that present the potential for a USQ.		X		
	1C-ON(2)	Discovery of a potential USQ that could affect the present or future operation of the facility. Routine USQ determinations due to planned system or operational modifications are not reportable under this criteria.		X		
Loss of Control of Radioactive Material/Spread of Radioactive Contamination (1D)	1D-UO(1)	Identification of radioactive contamination offsite in excess of 100 times any of the surface contamination levels specified in DOE 5400.5, RADIATION PROTECTION OF THE PUBLIC AND THE ENVIRONMENT, Figure IV-1, that has not been previously identified and formally documented. For the first group listed in Figure IV-1 (i.e., transuranics...) use the values specified in Table 1 (provided as Appendix B to this Manual) of the EH-412 memorandum "Application of DOE 5400.5 Requirements for Release and Control of Property Containing Residual Radioactive Material", dated November 17, 1995.	X		LMC – Any occurrence	(See Table in Appendix F. For uranium, these values are: average - 500,000 dpm/100cm ² ; maximum - 1,500,000 dpm/100 cm ² ; removable - 100,000 dpm/100cm ² .) For reporting purposes, "offsite" refers to areas off the Oak Ridge DOE Reservation. "Offsite" includes privately-owned rented office areas used by Y-12 or Lockheed Martin Energy Systems (LMES) employees.

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 19 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	1D-UO(2)	Loss of accountability of a sealed source or identification of lost radioactive material that exceeds 100 times the quantities specified in DOE N 441.1, RADIOLOGICAL PROTECTION FOR DOE ACTIVITIES.	X			<p>If a source were missing for less than one work shift, then the event is not reportable. If the source cannot be found within 8 hours after a reasonable search, then the event is reportable. However, if physical possession of a source is lost offsite for any amount of time, the event is reportable.</p> <p>NOTE: An offsite loss of source accountability may also be reportable under Group 10, "Cross-Category Items," of DOE M232.1-1.</p>
	1D-UO(3)	Any fissile material in a process or nonprocess system outside primary confinement boundaries not designed or expected to accommodate such material.	X			
	1D-ON(1)	Any unplanned spill of liquids in excess of one gallon contaminated with radioactive material in concentrations greater than five times the Derived Concentration Guide values listed in DOE 5400.5, Figure III-1.		X		<p>Does not include spills in areas designated to collect and transfer the material back to safe, controlled storage.</p> <p>If such a spill occurs in a posted radiological area established for contamination control (Radiological Buffer Area, Contamination Area, High Contamination Area, or Airborne Radioactivity Area), then the event is not reportable, unless the spill impacts an area outside the posted radiological area.</p>

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 20 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
						NOTE: Legacy contamination of equipment materials, or areas, detected outside of Radiologically Controlled Areas is reported in a Quarterly Roll-Up Report. Per formal agreement with DOE, an Update Report is not required at the discovery of legacy material/equipment contamination for each event. These events are grouped and summarized in the Final Report. This ensures that identified corrective actions are implemented on a sitewide basis.
	1D-ON(2)	Identification of radioactive contamination outside a radiological area (as defined in 10 CFR 835, Occupational Radiation Protection) or radiological buffer area established for contamination control, but within a Controlled Area, in excess of 10 times the total contamination levels in 10 CFR 835, Appendix D. For tritium, until a total contamination value is specified by 10 CFR 835 Appendix D, report contaminations in excess of 10 times 10,000 dpm/100cm ² .		X		<p>The "Controlled Area" is defined by posting; any area so posted is considered part of the Controlled Area. The Controlled Area of the Y-12 Site includes the posted fenced area and posted areas outside the fenced area, such as waste management areas.</p> <p>For contamination that is posted as fixed, reportability is determined based upon the portion of the contamination that is removable. For uranium, removable contamination levels above 50,000 dpm/100 cm² are reported.</p>

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 21 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	1D-ON(3)	Identification of radioactive contamination onsite that is not located within a Controlled Area, Fixed Contamination Area, or Soil Contamination Area, and is in excess of two times the total contamination levels in 10 CFR 835, Occupational Radiation Protection, Appendix D. For tritium, until a total contamination value is specified by 10 CFR 835 Appendix D, report contaminations in excess of 2 times 10,000 dpm/100cm ² .		X		"Onsite" includes the Oak Ridge DOE Reservation NOTE: Some areas of the Y-12 Plant are posted as "Underground Radioactive Material" Areas. Radioactive material found underground in posted Underground Radioactive Material Areas is <i>not</i> reportable.
	1D-ON(4)	Identification of radioactive contamination offsite in excess of any of the surface contamination levels specified in DOE 5400.5, Figure IV-1, that has not been previously identified and formally documented. For the first group listed in Figure IV-1 (i.e., transuranics...) use the values specified in Table 1 (provided as Appendix B to this Manual) of the EH-412 memorandum "Application of DOE 5400.5 Requirements for Release and Control of Property Containing Residual Radioactive Material", dated November 17, 1995.		X		"Previously identified and documented" means the presence of contamination has been documented and reported to a competent authority, i.e., DOE and/or the appropriate regulatory agency.
	ID-ON(5)	Loss of accountability of a sealed source or identification of lost radioactive material that exceeds ten times and is less than 100 times the quantities specified in DOE N 441.1, RADIOLOGICAL PROTECTION FOR DOE ACTIVITIES.		X		If a source were missing for less than one work shift, then the event is not reportable. If the source cannot be found within eight hours after a reasonable search, then the event is reportable. However, if physical possession of a source is lost offsite for any amount of time, the event is reportable. NOTE: An offsite loss of source accountability may also be reportable under DOE M232.1-1, Section 8.3, Group 10, "Cross-Category Items."

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 22 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	ID-ON(6)	Loss of accountability of a sealed source or identification of lost radioactive material that is one to ten times the quantities specified in DOE N 441.1, RADIOLOGICAL PROTECTION FOR DOE ACTIVITIES.		X		<p>May be reported in a Roll-Up Report.</p> <p>If a source were missing for less than one work shift, then the event is not reportable. If the source cannot be found within eight hours after a reasonable search, then the event is reportable. However, if physical possession of a source is lost offsite for any amount of time, the event is reportable.</p> <p>NOTE 1: The source in question must be an accountable source (i.e., it meets or exceeds the quantities specified in DOE N 441.1). This section does not apply to exempt quantity sources.</p> <p>NOTE 2: An offsite loss of source accountability may also be reportable under DOE M 232.1-1, Group 10, "Cross-Category Items."</p>
Safety Structure/ System/ Component Degradation (1E)	1E-UO(1)	Performance degradation of any Safety Class Structure, System, or Component (SSC) that prevents satisfactory performance of its design function when it is required to be operable or in operation.	X			

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 23 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	1E-ON(1)	Performance degradation of any Safety Class SSC that prevents satisfactory performance of its design function when it is not required to be operable or in operation.		X		
	1E-ON(2)	Performance degradation of any nuclear or nonnuclear Safety Significant SSC that prevents satisfactory performance of its design function when it is required to be operable or in operation.		X		
Violation/ Inadequate Procedures (1F)	1F-UO(1)	Maintenance performed a Safety Class SSC without meeting the required plant conditions for nonavailability resulting in a performance degradation.	X			
	1F-UO(2)	Incorrect maintenance (including calibration) on or unauthorized modifications to Safety Class SSC that was required to be operable or in operation and results in a performance degradation.	X			
	1F-ON(1)	Any violation resulting in actual equipment damage in excess of \$10,000.		X		May require submittal of CAIRS Form X
	1F-ON(2)	Use of inadequate procedures or deviations from written procedures that result in adverse effects on performance, safety, or reliability.		X		
	1F-ON(3)	Incorrect maintenance (including calibration) on or unauthorized modifications to Safety Significant SSC required to be operable or in operation.		X		
Oversight Activities (1G)	1G-UO(1)	Any internal/external oversight activity discovering unsatisfactory operation, testing, maintenance, or modification of any Safety Class SSC that is required to be operable or in operation.	X			
	1G-ON(1)	Any internal/external oversight activity discovering unsatisfactory operation, testing, maintenance, or modification of any Safety Significant SSC required to be operable or in operation.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 24 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Operations (1H)	1H-UO(1)	Actuation of Safety Class SSC or their alarms resulting from an actual unsafe condition. Inadvertent alarms are not required to be reported unless an actuation of a Safety Class SSC occurs and the actuation is considered significant as defined by the approved facility procedures. Actuation of continuous air monitoring systems identified as Safety Class equipment do not have to be reported if their actuation was found to be due to radon-thoron effects on the system or their actuation is expected due to maintenance tasks and other planned operations in the facility where the potential for release of radioactivity is anticipated to occur and the workers are appropriately protected.	X			
	1H-UO(2)	Loss of incoming alternating current power and failure of any backup emergency power system to operate, when the backup emergency power system supplies power to a Safety Class SSC.	X			
	1H-UO(3)	Weather conditions/natural phenomenon causing serious disruption of facility activities.	X		LMC – Accidents or incidents not involving injuries, but constituting an imminent threat to personnel safety or continuity of operations.	
	1H-UO(4)	Loss of process ventilation system serving a confinement function, which results in the loss of confinement.	X			
	1H-UO(5)	Any facility evacuation (excluding office space) in response to an actual occurrence, not including a precautionary evacuation for an event that can be controlled and mitigated by employees or maintenance personnel assigned to the affected facility or activity.	X			
	1H-ON(1)	Any unplanned and unexpected change in a process condition or variable adversely affecting safety, security, environment, or health protection performance sufficient to require termination of a procedure in a reactor or nonreactor facility.		X		
	1H-ON(2)	Any unplanned electrical outages or unexpected consequences from a planned outage, which seriously disrupt normal operations of a facility and/or may prevent the facility from meeting approved operating goals.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 25 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	1H-ON(3)	Any unplanned outages of service systems (i.e., cooling water, steam, phones, communication systems, etc.) or unexpected consequences from a planned outage which: <ul style="list-style-type: none"> • disrupt normal operations for one week or longer and • which adversely affect safety, security, environment or health protection performance. 		X		
	1H-ON(4)	Loss of any process ventilation system serving a confinement function which does not result in the loss of confinement.		X		
	1H-ON(5)	Actuation of Safety Significant SSC or their alarms resulting from an actual unsafe condition. Inadvertent alarms are not required to be reported. Actuation of continuous air monitoring systems identified as Safety Significant equipment does not have to be reported if their actuation was found to be due to radon-thoron effects on the system or their actuation is expected due to maintenance tasks and other planned operations in the facility where the potential for release of radioactivity is anticipated to occur and the workers are appropriately protected.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 26 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 2: Environmental

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Radionuclide Releases (2A)	2A-UO(1)	Release of a radioactive material that violates environmental requirements in Federal permits, Federal regulations, or requirements established under DOE directives.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, -leased, or -operated property.	
	2A-UO(2)	Any release that is not an Emergency as defined in DOE O 151.1 but which requires immediate reporting (less than 4 hours) to Federal regulatory authorities. Release of a radioactive material that exceeds a federally permitted release by the amount of a Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) reportable quantity (RQ) or, where no federally permitted release exists, the release exceeds the reportable quantity or triggers specific action levels for an outside Federal agency.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, -leased, or -operated property.	
	2A-ON(1)	Any release of radioactive material to controlled or uncontrolled areas that is not part of normal monitored release and which exceeds 50% of a CERCLA reportable quantity specified for such material per 40 CFR 302.		X		
	2A-ON(2)	Any controlled release of radioactive material that occurs as a monitored part of normal operations that exceeds what historical data and/or analysis show is expected as a result of normal operations.		X		
	2A-ON(3)	Any monitored facility or site boundary where exposure or concentration exceeds what historical data and/or analysis show is expected as a result of normal operations.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 27 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	2A-ON(4)	Any detection of a radionuclide in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected.		X		
	2A-ON(5)	Any controlled, uncontrolled, or accidental release not classified as an Unusual Occurrence but will be reported in writing to State/local agencies in a format other than routine periodic reports.		X		
Release of Hazardous Substances/ Regulated Pollutants/Oil (2B)	2B-UO(1)	Release of a hazardous substance or regulated pollutant that exceeds a CERCLA reportable quantity per 40 CFR 302 and 40 CFR 355 for chemicals and extremely hazardous substances.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, - leased, or -operated property.	
	2B-UO(2)	Any release that is not an Emergency as defined by DOE O 151.1, COMPREHENSIVE EMERGENCY MANAGEMENT SYSTEM but which requires immediate (less than 4 hours) reporting to Federal regulatory agencies or triggers specification action levels for an outside Federal agency.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, - leased, or -operated property.	
	2B-UO(3)	Any discharge of 100 gallons or more of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil. For operations involving oil field crude or condensate, any discharge of 100 barrels or more is reportable under these criteria.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, - leased, or -operated property.	

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 28 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	2B-ON(1)	Release of a hazardous substance or regulated pollutant to controlled or uncontrolled areas that is not part of a normal, monitored release and which exceeds 50% of a CERCLA reportable quantity as specified for such material per 40 CFR 302.		X		
	2B-ON(2)	Any discharge of greater than 42 gallons of oil of any kind or in any form, including, but not limited to, petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil outside of a permitted containment area. For operations involving oil field crude oil or condensate, any discharge less than the Unusual Occurrence level but in excess of 10 barrels.		X		
	2B-ON(3)	Any detection of a toxic or hazardous substance in a sanitary or storm sewer, waste or process stream, or any holding points where such a material is not expected to be found considering the current detection method and historical detection method used.		X		
	2B-ON(4)	Any controlled, uncontrolled, or accidental release not classified as an Unusual Occurrence but which will be reported in writing to State/local agencies in a format other than routine periodic reports.		X		
	2B-ON(5)	Any controlled release of hazardous/regulated material that occurs as a monitored part of normal operation but exceeds what historical data and/or analysis shows is expected as a result of normal operations.		X		
	2B-ON(6)	Any general environmental monitoring where concentration increases to a level which exceeds what historical data and/or analysis shows is expected as a result of normal operations.		X		
Hazardous Material Contamination (2C)	2C-UO(1)	Discovery of onsite or offsite contamination due to DOE operations that does not represent an immediate threat to the public but exceeds a reportable quantity for such material per 40 CFR 302.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, -leased, or -operated property.	

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 29 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	2C-UO(2)	Any discovery of groundwater contamination due to DOE operations that is not part of an existing plume previously identified in either an annual report or in any CERCLA/RCRA activity or report.	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, -leased, or -operated property.	
	2C-ON(1)	Discovery of onsite contamination due to DOE operations that exceeds 50% of a reportable quantity for such material per 40 CFR 302.		X		
Ecological Resources (2D)	2D-UO(1)	Any occurrence causing significant impact to any ecological resource for which the DOE is a trustee (i.e., destruction of a critical habitat, damage to a historic/archeological site, damage to wetlands, etc.).	X		LMC – Any serious environmental accident or incident, including major spills or releases, which poses a significant threat to the environment or where it's effect extends beyond the boundaries of LMC-owned, -leased, or -operated property.	
Environmental Agreement/ Compliance Activities (2E)	2E-UO(1)	Any occurrence under any agreement or compliance area that requires notification of an outside regulatory agency within 4 hours or less, or triggers any outside regulatory agency action level.	X			
	2E-ON(1)	Any agreement, compliance, remediation or permit-mandated activity for which formal notification of enforcement has been received from the relevant outside regulatory agency that a site/facility is considered to be in noncompliance with a schedule or requirement (e.g., Notice of Violation, Notice of Deficiency, Notice of Intent to Sue, Notice of Noncompliance, Warning Letter, Finding of Violation, Finding of Alleged Violation, or a similar type enforcement action).		X		
	2E-ON(2)	Any occurrence under any agreement or compliance area that will be reported to outside agencies in a format other than routine periodic reports.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 30 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 3: Personnel Safety

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Occupational Illness/Injuries (3A)	3A-UO(1)	Any occurrence due to DOE operations resulting in a fatality or terminal injury or illness.	X		LMC – Any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	Requires submittal of CAIRS Form X, Type A Investigation
	3A-UO(2)	Any one occurrence resulting in 3 or more lost workday cases as defined by 29 CFR 1904.12 and Office of Management and Budget (OMB) No. 1200-0029.	X		LMC – Any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	Requires submittal of CAIRS Form X, Type A Investigation
	3A-UO(3)	Any occurrence requiring in-patient hospitalization of 3 or more personnel or that has a high probability of resulting in a permanent disability.	X		LMC – Any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	Requires submittal of CAIRS Form X, Type A Investigation

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 31 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	3A-UO(4)	Personnel exposures to sufficient levels of hazardous substances or hazards that require the administration of medical treatment on the same day as the exposure and are above limits established by the Occupational Safety and Health Administration (refer to 29 CFR 1910) or American Conference of Governmental Industrial Hygienists (ACGIH), whichever is lower. These should include: <ul style="list-style-type: none"> Noise Non-ionizing radiation Chemical Agents Physical Agents Biological Agents 	X			May require submittal of CAIRS Form X.
	3A-UO(5)	Exposures to an immediately dangerous to life and health (IDLH) (as defined by 29 CFR 1910.120) condition without both appropriate personal protective equipment and procedures in place.	X			
	3A-ON(1)	Any occupational illness or injury that results in inpatient hospitalization.		X	LMC – At the direction of the Plant Manager (or designee), any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	Requires submittal of CAIRS Form; Type B Investigation
	3A-ON(2)	Series of occupational illnesses from one event involving 3 or more people where at least one is a lost workday case.		X		Requires submittal of CAIRS Form; Type B Investigation

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 32 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	3A-ON(3)	Personnel exposure in a single event to hazardous substances or hazards in excess of limits, as established by the Occupational Safety and Health Administration (refer to 29 CFR 1910), or American Conference of Governmental Industrial Hygienists (ACGIH), whichever is lower. These should include: <ul style="list-style-type: none"> Noise Non-ionizing radiation Chemical Agents Physical Agents Biological Agents 		X		
Vehicular Incidents (3B)		<i>NOTE: This section covers vehicular transportation incidents, including DOE or DOE contractor operated aircraft. Group 6 should also be considered in categorization for reporting. Transportation incidents without injury (e.g., those involving hazardous or radioactive material or financial loss) must be reported per the requirements of Group 6 or 7.</i>				
	3B-UO(1)	Any vehicular incident resulting in fatality(s), injury(s), or illness classified under Group 3.A, Unusual Occurrence.	X		LMC – Any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	Requires submittal of CAIRS Form X, Type A Investigation
	3B-UO(2)	Any vehicular incident involving Departmental property with a fatality(s) to a person(s) other than DOE personnel or DOE contractor personnel.	X		LMC – Any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	May require submittal of CAIRS Form X

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 33 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	3B-ON(1)	Any vehicular incident with injury(s) involving Departmental property resulting in a lost workday case.		X	LMC – At the direction of the Plant Manager (or designee), any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	May require submittal of CAIRS Form X
	3B-ON(2)	Any vehicular incident involving Departmental property with injury(s) to a person(s) other than DOE personnel or DOE contractor personnel.		X	LMC – At the direction of the Plant Manager (or designee), any serious or fatal injury to a LMC employee (including while on business travel, or while on temporary or extended duty assignment) or other person occurring at a facility owned, leased, or operated by LMC.	May require submittal of CAIRS Form X
Safety Concerns (3C)						
	3C-ON(1)	Unapproved use of flammable, toxic, explosive, corrosive, or other unsafe or dangerous processes, chemicals, materials, or methods not in accordance with standard operating procedures or work plans.		X		
	3C-ON(2)	Any shutdown of a work activity taken as a result of an Occupational Safety and Health Administration violation (e.g., trenching without adequate shoring or working at elevated levels without fall protection, when required).		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 34 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 4: Personnel Radiological Protection

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Radiation Exposure (4A)		<i>Note: Unless specified otherwise, all doses specified in the following requirements are calculated as the total effective dose equivalent, which is the sum of the committed effective dose equivalent due to radionuclides taken into the body (internal exposure) and the effective dose equivalent due to external exposure.</i>				
	4A-UO(1)	Determination of a dose that exceeds the limits specified in 10 CFR 835, Subpart C, Occupational Radiation Protection (for onsite exposure) or DOE 5400.5, Chapter II, Section 1 (for offsite exposures to a member of the public).	X			May require submittal of CAIRS Form X. Determination of a dose that exceeds the limits specified in Table 2-1 of Y/DQ-61, Y-12 Radiological control manual (for onsite exposure) or DOE 5400.5, Chapter II, Section 1 (for offsite exposures to a member of the public.)
	4A-ON(1)	Any single occupational exposure that exceeds an expected exposure by 100 mrem.		X		May require submittal of CAIRS Form X. Y-12 will report a single quarterly bioassay or thermoluminescent dosimeter (TLD) result of 200 mrem or greater. Formally documented, planned exposures are excluded from the limit. External and internal exposure will not be added, unless clearly derived from the same single event. Chronic exposures will not be reported under DOE M232.1.1.4, Section a (1). Once a dose is assessed to be above reporting levels, it will be reported within two hours.

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 35 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	4A-ON(2)	A single unplanned exposure onsite to a minor or member of the public that exceeds 50 mrem.		X		Once a dose is assessed to be above reporting levels, it will be reported to the Facility Manager within two hours.
	4A-ON(3)	Determination of a dose that exceeds the reporting requirement thresholds specified in DOE 5400.5, Chapter II, Section 7, for offsite exposures to a member of the public.		X		
Personnel Contamination (4B)	4B-UO-(1)	Any single occurrence resulting in the contamination of five or more personnel or clothing (excluding protective clothing) measured (prior to washing or decontamination) in accordance with DOE Radiological Control Manual, Article 338, or equivalent, at a level exceeding the values for total contamination limits identified in 10 CFR 835, Occupational Radiation Protection, Appendix D. The contamination level shall be based on direct measurement and not averaged over any area. For tritium, until a total contamination value is specified by 10 CFR 835 Appendix D, report contaminations exceeding 10,000 dpm/100cm ² .	X			"Protective clothing" means anti-contamination clothing (anti-Cs) and other protective clothing and equipment required or authorized by a Radiological Work Permit (RWP).
	4B-UO(2)	Any occurrence requiring offsite medical assistance for contaminated personnel.	X			May require submittal of CAIRS Form X If an individual, who is dressed in anti-Cs and taken offsite for medical care, is not contaminated above the limits of the RCM Table 2-2 for total or removable contamination, then the event is not reportable. (The contamination level shall be based on direct measurement and not averaged over 100 cm ² .)

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 36 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
						NOTE: The event may also be reportable under DOE M232.1-1, Section 8.3, Group 10, "Cross-Category Items," Part C, "Identification of potential concerns and issues, that are deemed to be worthy of reporting."
	4B-UO(3)	Identification of personnel or clothing contamination offsite due to DOE operations in accordance with approved radiological procedures for determining personnel and/or clothing contamination, measured (prior to washing or decontamination) in accordance with the Radiological Control Manual, Article 338, or equivalent.	X			Y-12 will refer to the total limits. For uranium, the total limit is 5,000 dpm/100 cm ² .
	4B-ON(1)	Any measurement of personnel or clothing contamination (excluding protective clothing) at a level equal to or exceeding five times the total contamination limits identified in 10 CFR 835, Occupational Radiation Protection, Appendix D, measured (prior to washing or decontamination) in accordance with the DOE Radiological Control Manual Article 338, or equivalent. The contamination level shall be based on direct measurement and not averaged over any area. For tritium, until a total contamination value is specified by 10 CFR 835 Appendix D, report contaminations at a level equal to or exceeding 5 times 10,000 dpm/100cm ² .		X		(For total uranium contamination, this range is: greater than 5,000 dpm/100 cm ² but less than 25,000 dpm/100 cm ² .)

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 37 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	4B-ON(2)	Any measurement of personnel or clothing contamination (excluding protective clothing) at a level exceeding but less than five times the total contamination limits identified in 10 CFR 835, Occupational Radiation Protection, Appendix D, measured (prior to washing or decontamination) in accordance with the DOE Radiological Control Manual Article 338, or equivalent. The contamination level shall be based on direct measurement and not averaged over any area. For tritium, until a total contamination value is specified by 10 CFR 835 Appendix D, report contaminations greater than 10,000 dpm but less than 5 times 10,000 dpm/100cm ² .		X		(For total uranium contamination, this level is equal to or greater than 25,000 dpm/100 cm ²)

Y14-192 Rev. Date: 03/01/99 Supersedes: 09/10/98 Page: 38 of 69

Subject: Occurrence Notification and Reporting

APPENDIX B
LMES Y-12 Categorization Matrix

Group 5: Safeguards and Security

Note: Occurrences in this group will require careful review for classified and Unclassified Controlled Nuclear Information, in addition to careful review for privacy considerations. Classified information will be transmitted only through approved communications channels and should be held to the absolute minimum. The lack of detail that may be required in such reports is recognized by DOE management. For the purpose of this group of reportable occurrences, the term "onsite" applies to all facilities, installations, and real property subject to the jurisdiction or administration of the DOE or in its custody and posted with notices of prohibitions and penalties.

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Criminal Acts (5A)		<i>Initial notification of events in this section shall follow normal occurrence reporting timelines. When reporting an occurrence that is the subject of an ongoing investigation under this subgroup, the report shall be tailored to prevent jeopardizing the investigation. Full reporting may be delayed until completion of criminal investigations, if the reports would jeopardize the investigation.</i>				
	5A-UO(1)	At DOE reactor or nonreactor nuclear facilities: <ul style="list-style-type: none"> • bomb-related incidents, including location of a suspicious device or a noncredible bomb threat; • a noncredible terrorist threat; or • a noncredible sabotage threat or breach/attempted breach of a secure/classified facility. 	X			
	5A-UO(2)	Violent assault/battery, murder, or unjustified use of deadly force while on DOE property.	X			
	5A-UO(3)	Theft/diversion/intentional destruction of Government property valued greater than \$1,000,000.	X			Requires submittal of CAIRS Form X; Type A Investigation
	5A-UO(4)	Racketeering or other organized criminal activity onsite.	X			
	5A-ON(1)	At DOE facilities other than reactors and nonreactor nuclear facilities: <ul style="list-style-type: none"> • location of a suspicious device or noncredible bomb threat; • noncredible terrorist threat; or • noncredible sabotage threat. 		X		
	5A-ON(2)	Theft/diversion/intentional destruction of government property valued between \$10,000 and \$1,000,000.		X		Requires submittal of CAIRS Form X; Type A or B Investigation may be required.

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 39 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	5A-ON(3)	Onsite felony conspiracies (i.e., blackmail, fraud, embezzlement, extortion and forgery) not involving classified information.		X		
Unaccounted for Classified Matter or Compromised Information Unusual Occurrence (5B)	5B-UO(1)	<i>The loss, potential compromise, or unauthorized disclosure (determined in accordance with DOE M 471.2-1), in any manner, of information classified as, or which should have properly been classified as, Top Secret (all categories) and Secret (all categories), and/or all documents regardless of classification level and category containing Sensitive Compartmented Information, Special Access Program information, and/or classified information of another government agency or foreign government.</i>	X			
	5B-ON(1)	The loss, potential compromise, or unauthorized disclosure (determined in accordance with DOE M 471.2-1), in any manner, of information classified as, or which should have properly been classified as, Confidential (all categories), but not including Confidential documents containing Sensitive Compartmented Information, Special Access Program information, and/or classified information of another government agency or foreign government.		X		
Substance Abuse (5C)		<i>Discovery of the prohibited use, possession or involvement of alcohol or illegal drugs by personnel within a facility that may affect facility operations.</i>				
	5C-ON(1)	Any reportable occurrence under this Manual at least partially attributable to the use of alcohol or illegal drugs.		X		
	5C-ON(2)	A detection of personnel not fit for duty attributable to the use of alcohol or illegal drugs.		X		
Intelligence Activities (5D)	5D-UO(1)	Extortion/blackmail directed at DOE or DOE contractor personnel with intent of obtaining classified information/ systems, detailed information concerning plant processes/configurations, or aiding in sabotage or terrorist acts.	X			
	5D-UO(2)	Espionage, intelligence activities, treason, or subversive activities by or directed at DOE or DOE contractor personnel.	X			

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 40 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	5D-ON(1)	When illegal or unauthorized access is sought to classified or sensitive information, technology, or special nuclear materials.		X		
	5D-ON(2)	When DOE or DOE contractor personnel believe that they may be the target of an attempted exploitation by an inimical interest, foreign or domestic.		X		
Physical Security System Computer (5E)	5E-UO(1)	Actual/attempted unauthorized access to classified or sensitive unclassified information.	X			
	5E-UO(2)	Discovery of a computer incident (virus, hacker, sniffer, abuse, fraud, etc.) involving a physical security system that causes an alteration to a security feature, disruption of service, or loss of the confidentiality, integrity or availability of information, and results in an estimated \$1,000,000 or more in damages or the cost of restoring services.	X			
	5E-ON(1)	Discovery of a computer incident (virus, hacker, sniffer, abuse, fraud, etc.) involving a physical security system that causes an alteration to a security feature, disruption of service, or loss of the confidentiality, integrity or availability of information, and results in an estimated \$10,000 or more in damages or the cost of restoring services.		X		
Unplanned/ Unscheduled Outage of Site Security System (5F)	5F-UO(1)	Unplanned/unscheduled outage of any site security system, or major component of a site security system, that is not redundant and/or results in a potential vulnerability which would allow unauthorized or undetected access to Protected Areas, Exclusion Areas, Material Access Areas, and Sensitive Compartmented Information Facilities.	X			
	5F-ON(1)	Unplanned/unscheduled outage of any site security system, or major component of a site security system, not encompassed by the Unusual Occurrence category, that is not redundant and not authorized by a facility shutdown plan or a special security plan approved by DOE, that requires the physical presence of the protective force as a compensatory measure to prevent unauthorized access. This does not include the stationing of protective forces as a backup security system identified in a DOE approved facility security plan.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 41 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Demonstrations/Protests (5G)	5G-UO(1)	Disruptive activities impeding vehicular or employees access/egress.	X			
	5G-UO(2)	Attempted or actual trespass.	X			
	5G-UO(3)	Malevolent activities causing property damage or bodily harm.	X			
	5G-ON(1)	Lawful activities warranting deployment of additional protective measures.		X		
Firearms (5H)	5H-UO(1)	Unauthorized firearms discharge resulting in personnel injury.	X			
	5H-ON(1)	Unauthorized firearms discharge resulting in no personnel injury.		X		
	5H-ON(2)	Loss or theft of DOE firearms or munitions, as per DOE 5632.7A, PROTECTIVE FORCE PROGRAMS.		X		
Other Security Concerns (5I)	5I-UO(1)	Unauthorized use, possession, or alteration of a security badge, credential, shield, or other form of official identification (to include blank badge stock/form) to gain access to a protected area or limited area.	X			
	5I-ON(1)	Discovery of prohibited items within a Protected Area that: <ul style="list-style-type: none"> are suspected of being positioned for the purpose of aiding and abetting a malevolent act; or are, of themselves, illegal. Items discovered outside controlled areas that are legal under Federal, State, and local laws are not reportable, even if the discovery of such items would otherwise be reportable under this paragraph.		X		
	5I-ON(2)	Onsite death of cleared DOE or DOE contractor personnel by unnatural causes (e.g., suicide, drug overdose).		X		
	5I-ON(3)	Loss of security badges in excess of 5 percent in a calendar year.		X		
	5I-ON(4)	Onsite malicious mischief, disorderly conduct, or vandalism which disrupts plant activity or causes damage between \$10,000 and \$100,000.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: 09/10/98

Page: 42 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Material Control and Accountability (5J)	5J-UO(1)	Loss or apparent loss of the following (including item losses due to shipper-receiver differences): <ul style="list-style-type: none"> one or more items for which the items total a Category I, II, or III quantity of special nuclear materials, or one or more items of tritium in a weapons or test component, or one or more items which total 50 grams or more of tritium. 	X			
	5J-UO(2)	An inventory difference (loss or gain) that exceeds alarm limits, does not involve the loss of an item, and is a Category I or II quantity of special nuclear materials.	X			
	5J-UO(3)	A shipper-receiver difference involving a gain in the number of items for which the items total to a Category I or II quantity of special nuclear materials.	X			
	5J-UO(4)	Evidence that special nuclear material balance or tritium material balance data has been manipulated or falsified to mask a diversion or theft or to alter loss detection sensitivity.	X			
	5J-UO(5)	Alarms or other indicators, excluding inventory differences or shipper-receiver differences, from loss detection elements for Category I and II material balance areas that cannot be proven to be false within 24 hours.	X			
	5J-UO(6)	Loss or apparent loss whenever a State, local government or other Federal agency must be notified.	X			
	5J-ON(1)	Alarms or other indicators, excluding inventory differences or shipper-receiver differences, from loss detection elements for Category III and IV material balance areas that cannot be proven to be false within 24 hours.		X		
	5J-ON(2)	A special nuclear materials or tritium inventory difference (loss or gain) that exceeds the alarm limits, does not involve the loss of an item, and is a Category III or IV quantity of material.		X		
	5J-ON(3)	A shipper-receiver difference that exceeds 200 grams of fissile material and the combined limit of error for the shipment.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 43 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	5J-ON(4)	A special nuclear materials or tritium shipper-receiver difference involving a gain in the number of items for which the items total a Category III or IV quantity of material.		X		
	5J-ON(5)	Any unexpected accumulation of fissile material within primary confinement boundaries.		X		
	5J-ON(6)	A statistically significant trend in total inventory difference for special nuclear materials or tritium inventories.		X		
	5J-ON(7)	Loss or apparent loss of one or more items for which the items total a Category IV quantity of special nuclear materials or any loss of one or more containers of tritium that does not meet the threshold for an Unusual Occurrence (includes item losses due to shipper-receiver differences).		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 44 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 6: Transportation

Note: Transportation occurrences are incidents related to the transportation of DOE materials, including hazardous materials, hazardous substances, and hazardous wastes by vehicular, vessel, air, or rail mode. The requirements for reporting noncompliances and violations associated with such transfers are qualified in this Manual. The Federal regulations for offsite transportation are found in 10 CFR Part 71, 49 CFR Parts 106-180, 200-250, and 350-399, 46 CFR (vessel), ICAO/IATA, IMDG, 14 CFR (aviation), and several DOE Orders. For onsite (within controlled boundaries of DOE facilities), the transportation regulations for hazardous materials transfers are the same as offsite (DOT's Hazardous Materials Regulations) or as defined in an approved facility Transportation Safety Document.

DOE facilities receiving materials from a DOE shipper that are not in compliance with appropriate regulations, as qualified by this Manual, must report the discrepancies to the DOE shipper who will prepare an Occurrence Report and implement suitable corrective actions. If such a shipment is received from a non-DOE shipper and meets the reporting criteria of this Manual, the DOE organization will notify the non-DOE shipper of the apparent noncompliance and will prepare an Occurrence Report stating that the non-DOE shipper has been notified. These reporting criteria are in addition to any required by DOT for contractors subject to the DOT regulations.

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Transportation of DOE Hazardous Materials (6)	6-UO(1)	Any packaging or transportation activity (including loading, unloading, or temporary storage) involving the offsite release of radioactive material, etiologic agents, a reportable quantity of hazardous substance, or marine pollutants	X		LMC – Any serious accident or incident involving the transportation of hazardous materials or waste, wherever it might occur, for which LMC has involvement.	
	6-UO(2)	Any shipment of radioactive material that arrives at its destination with radiation or contamination levels greater than DOT limits, or results in personnel radiation exposure higher than permitted in Federal permits, Federal regulations, or DOE standards	X		LMC – Any serious accident or incident involving the transportation of hazardous materials or waste, wherever it might occur, for which LMC has involvement.	
	6-UO(3)	Any shipment or onsite transfer of radioactive material or hazardous waste that arrives at its destination with an unaccounted for package or an irreconcilable shipping paper, waste manifest, or onsite transfer authorization.	X			

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 45 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	6-UO(4)	A vehicle, vessel, rail or air incident or accident (without personal injury) that presents significant impact on the ability of a facility to conduct transportation operations and: <ul style="list-style-type: none"> • results in release of radioactive or hazardous materials above Federal permit, Federal regulatory, or DOE Standard limits; • involves performance degradation of safety equipment; or • is the result of failure or degradation of administrative controls required to ensure safety. 	X		LMC – Any serious accident or incident involving the transportation of hazardous materials or waste, wherever it might occur, for which LMC has involvement.	
	6-UO(5)	Violations of the Federal Motor Carrier Safety Regulations or the Hazardous Materials Regulations if those violations are determined by DOT inspection and result in a fine (monetary penalty).	X			
	6-ON(1)	Any packaging or transportation activity involving: <ul style="list-style-type: none"> • the offsite release of non-radioactive hazardous material, or any quantity of hazardous waste; or • the onsite release of radioactive materials, etiologic agents, hazardous substances, hazardous waste, or marine pollutants. 		X	LMC – Any serious accident or incident involving the transportation of hazardous materials or waste, wherever it might occur, for which LMC has involvement	
	6-ON(2)	A vehicle, vessel, rail or air incident or accident (<u>without personal injury</u>) that affects the ability of a facility to conduct transportation operations and: <ul style="list-style-type: none"> • results in release of radioactive or hazardous materials below limits established by Federal permits, Federal regulations, or DOE Standard limits but must be reported to State or local agencies; or • is the result of operational procedural violations, including maintenance or administrative procedures. 		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 46 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	6-ON(3)	<p>Noncompliances (potential violations) of the DOT Hazardous Materials Regulations or the transportation and packaging requirements of the Nuclear Regulatory Commission involving:</p> <ul style="list-style-type: none"> errors made by the shipper in materials description, marking, labeling, or placarding; an unqualified person signing shipping papers; the highway routing selection requirements for highway route controlled shipments or the notification requirements for spent-fuel shipments not being observed; the separation and segregation tables for hazardous materials not strictly adhered to; or the applicable packaging requirements for the assembly, handling, or selection of a package not being in accordance with the applicable regulations. 		X		
	6-ON(4)	<p>Noncompliances (potential violations) of the Federal Motor Carrier Safety Regulations involving:</p> <ul style="list-style-type: none"> a contractor driver operating a DOE-owned motor vehicle after a positive drug test or failure of an alcohol test; an unqualified driver operating a vehicle (medical, driver's license, or training not in compliance); the carrier (contractor management) not having required insurance; a vehicle that failed inspection not being removed from service; a specification cargo tank with expired inspection being in service with hazardous materials; a driver's log book deliberately misrepresented; or the carrier (contractor management) failing to perform random or periodic drug or substance-abuse testing. 		X		
	6-ON(5)	Any violation of the Hazardous Material Regulations or Federal Motor Carrier Safety Regulations if that violation is determined by DOT inspection and does not result in a penalty.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 47 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 7: Value Basis Reporting

Note: Value basis reporting includes items based on cost or the identification of defective items, materials, or services. A defective item, material, or service (see definition) shall be identified and reported to allow the initiation of a Headquarters investigation and make all Departmental Elements aware of the defect and initiate actions to eliminate common mode failures due to substandard, counterfeit, misrepresentation, or fraudulent practices of suppliers.

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Cost Based Occurrences (7A)		<i>Note: Any occurrence specifying cost as a basis for reporting, unless otherwise stated, will be classified by the following monetary values necessary to repair, replace, or otherwise restore a facility/system/component to acceptable operation. Costs used for reporting should be reasonable initial estimates.</i>				
	7A-UO(1)	Estimated loss or damage to DOE or other property amounting to \$1,000,000 or more, or estimated costs of \$1,000,000 or more required for cleaning (including decontamination), renovating, replacing, or rehabilitating structures, equipment, or property.	X			
	7A-ON(1)	Estimated loss or damage to DOE or other property amounting to between \$10,000 and \$1,000,000 (for vehicle/aircraft the lower limit is \$5,000 or, for insurance purposes, considered a total loss) or estimated costs within these limits required for cleaning (including decontamination), renovating, replacing or rehabilitating structures, equipment, or property.		X		
Defective Item, Material, or Service (7B)	7B-ON(1)	Discovery of any actual or potential defective item, material, or service, including any suspect, counterfeit, or substandard product, in any application whose failure could result in a substantial safety hazard. Examples include the identification of suspect, counterfeit or substandard products found in: <ul style="list-style-type: none"> • cranes, elevators, and fork lifts - items used in the critical load bearing path of such handling and lifting equipment; • aircraft - items used in engines or to attach engines, wings, tails, or landing gear; • vehicles - items used in engines, brakes or steering mechanisms; • critical components used in personnel safety equipment; and 		X		Identical items, materials, or services may be documented in a Roll-Up Report. Guidance in the identification and follow-up actions are contained in Environment, Safety & Health Bulletin, DOE/EH-0266, Issue No. 92-4, DOE Quality Alert, August 1992, or subsequent bulletins on similar topics.

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 48 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
		<ul style="list-style-type: none"> facilities - <ul style="list-style-type: none"> items used to contain: radioactive fluids, high temperature or pressure steam or fluids, or other hazardous material Safety Class SSC or Safety Significant SSC supporting the safe operation or shutdown of a facility, system, or process that could result in a performance degradation. <p><i>Guidance in the identification and follow-up actions is contained in DOE Quality Alerts or other bulletins.</i></p>				
	7B-ON(2)	Discovery of any actual or potential defective item, material, or service, including any suspect, counterfeit, or substandard product, in any application whose failure could not result in a substantial safety hazard. This does not include office supplies, equipment, or household products.		X		May be documented in a Roll-Up Report.

Subject: Occurrence Notification and Reporting

APPENDIX B
LMES Y-12 Categorization Matrix

Group 8: Facility Status

Note: This section involves the change of facility status that may affect the performance goals of a facility. The potential inability to meet performance goals may significantly affect other major and minor facilities throughout the complex. Performance goals are operating objectives necessary to accomplish an approved facility, process, or activity mission on a periodic basis. The duration of the goal may be short or long term, but should not exceed the goals of the annual operating plan.

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Facility/Process/Activity Unscheduled Shutdown (8A)	8A-ON(1)	Any unscheduled shutdown of a facility, process, or activity that resulted or may result in the failure to meet approved performance goals.		X	LMC – At the direction of the Plant Manager (or Designee), accidents or incidents not involving injury, but constituting an imminent threat to personnel safety or continuity of operations.	Ensure that the USQD Process is completed prior to reporting an event as a USQ.
Existing Facility/Process/Activity Shutdown Extension (8B)	8B-ON(1)	Any increase in an approved shutdown schedule of 1 month or greater or that resulted or may result in the failure to meet approved performance goals for an existing facility, process, or activity.		X		
New Facility/Process/Activity Start-up Delay (8C)	8C-ON(1)	Any delay in an approved start-up schedule of 1 month or greater and which resulted or may result in the failure to meet approved performance goals for a new facility, process, or activity.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 50 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 9: Nuclear Explosive Safety

Note: Any nuclear explosive occurrence at DOE facilities or during onsite or offsite nuclear explosive transportation.

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Nuclear Explosive Safety (9)	9-UO(1)	The unauthorized introduction of electrical energy into a nuclear explosive.	X			
	9-UO(2)	The unauthorized compromise of a nuclear explosive safety feature when installed on a nuclear explosive.	X			
	9-UO(3)	Damage to a nuclear explosive that results in a credible threat to nuclear explosive safety.	X			
	9-UO(4)	Inadvertent substitution of a nuclear explosive for a nuclear explosive-like assembly (NELA) or vice versa.	X			
	9-UO(5)	A violation of a nuclear explosive safety rule (NESR).	X			
	9-ON(1)	A "near miss", i.e., a situation that could (but did not) result in a credible threat to nuclear explosive safety		X		
	9-ON(2)	A violation of the two-person concept of operations.		X		
	9-ON(3)	Revocation of the Personnel Assurance Program (PAP) certification of an individual (for cause).		X		
	9-ON(4)	Damage to a training unit during training operations indicative of a hazard to a nuclear explosive.		X		
	9-ON(5)	The use of uncertified personnel or unauthorized equipment/tooling during a nuclear explosive operation.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 51 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group 10: Cross-Category Items

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
Collectively Significant Related Occurrences (10A)	10A-UO(1)	A series of related occurrences, which individually do not warrant reporting under preceding criteria, but collectively are considered significant enough to warrant reporting as determined by the Facility Manager.	X			Categorization determined by the Facility Manager or designee.
	10A-ON(1)	A series of related occurrences which individually do not warrant reporting under preceding criteria but which collectively are considered significant enough to warrant reporting as determined by the Facility Manager.		X		Categorization determined by the Facility Manager or designee.
Near Miss Occurrences (10B)	10B-UO(1)	A near miss to one of the reporting classifications under preceding categories where the conditions necessary to cause an Unusual Occurrence existed (i.e., all barriers to event initiation were compromised).	X		LMC – If involving personnel safety, accidents, or incidents not involving injury, but constituting an imminent threat to personnel safety or continuity of operations.	
	10B-ON(1)	A near miss to one of the reporting classifications under preceding categories where the conditions necessary to cause an Off-Normal Occurrence existed (i.e., all barriers to event initiation were compromised).		X		
	10B-ON(2)	A near miss to one of the reporting classifications under preceding categories where the conditions necessary to cause a reportable occurrence were prevented from existing by one remaining barrier after other barriers had been compromised (i.e., one additional independent failure/degradation was necessary for event initiation to be possible).		X		
	10B-ON(3)	An electrical shock with a personnel injury		X		
	10B-ON(4)	Incidents involving cutting of energized electrical lines (while excavating, drilling, or cutting). Does not apply to communications cables.		X		
	10B-ON(5)	Excavations involving contact with utilities services involving damage(s) and significant outages.		X		
	10B-ON(6)	Containment break while performing maintenance on pressurized steam lines (with no personnel injuries) which was unplanned.		X		

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 52 of 69

APPENDIX B
LMES Y-12 Categorization Matrix

Group	Identifier	Categorization Criteria – Y14-192	UO	ON	Special Notifications	Site-Specific Guidance
	10B-ON(7)	Any tipover of equipment while it is operated by personnel		X		
	10B-ON(8)	Noncompliances with lockout/tagout requirements that are discovered after the work has begun where the potential exists for personnel injury or property damage.		X		
	10B-ON(9)	Burns to employee apparel/PPE while conducting welding/burning/hotwork activities, (excluding approved welder apparel).		X		
	10B-ON(10)	Elevated work without proper fall begun where the potential exists for personnel injury.		X		
	10B-ON(11)	Dropped material in proximity to individuals (i.e., roll-up door part, concrete from flooring, lost load, falling roof panels) where the potential exists for personnel injury.		X		
	10B-ON(12)	Unplanned loss of containment of pressurized drums in the presence of employees.		X		
Potential Concerns/Issues (10C)	10C-UO(1)	An occurrence that may result in a significant concern, by the press or general population, particularly in the offsite transportation and radiological areas, or could damage the credibility of the Department.	X			
	10C-UO(2)	Identification of potential concerns or issues that are deemed to be worthy of reporting by the Facility Manager.	X			Categorization determined by the Facility Manager or designee.
	10C-ON(1)	Any event resulting in the initiation of a Type A or B investigation as categorized by DOE O 225.1, ACCIDENT INVESTIGATIONS.		X		
	10C-ON(2)	Identification of potential concerns or issues, that are deemed to be worthy of reporting by the Facility Manager		X		Categorization determined by the Facility Manager or designee.

Subject: Occurrence Notification and Reporting

Y14-192

Rev. Date: 03/01/99

Supersedes: Y10-192

Page: 53 of 69

Subject: Occurrence Notification and Reporting

APPENDIX C
Roll-Up Report Criteria
Page 1 of 2

A. Types of Roll-Up Reports

Two basic types of Roll-Up Reports are permitted for Off-Normal Occurrences: similar occurrences documented in a nonfinalized occurrence report, and similar occurrences based on open corrective actions in an approved Final Report

1. Similar Occurrences Documented in a Non-Finalized Occurrence Report – Roll-Up reports are permitted when a Final Report has not been approved for similar occurrences that meet the threshold requirements for categorization and are expected to have the same root cause code, the same or similar direct and contributing causes, or the same or similar corrective actions. The following conditions must be met:
 - a. An Occurrence Report has been initiated, but not finalized, i.e., either a Notification or Update Report has been submitted.
 - b. The preliminary investigation identifies the subsequent occurrence to be similar and have the same root cause code.
 - c. The preliminary investigation identifies the subsequent occurrence to have the same or similar direct and contributing causes as the initial occurrences.
 - d. The preliminary corrective actions for the initial occurrence are expected to correct any failures due to this root cause.
 - e. Appropriate corrective actions have been added to address direct and/or contributing causes identified for each new occurrence added to the report.
 - f. The DOE Facility Representative and DOE Program Manager must concur and agree to include these occurrences in a Roll-Up Report. EM-76 must concur for transportation reports.
 - g. The DOE Facility Representative agrees to the addition of each new occurrence.
 - h. The notification of the added occurrence is made through the issuance of an Update Report within the normal time period required for issuance of a Notification Report.

For example, if there are multiple area radiation monitors used within a facility and monitor failure was attributed to inadequate or defective design, a Notification Report is prepared and submitted as normally required. If, prior to finalizing the initial occurrence, additional monitors fail through similar mechanisms, only an update Occurrence Report is required, if the above conditions were met.

2. Similar Occurrences Based on Corrective Actions in an Approved Final Report – Roll-Up Reports are permitted for occurrences which meet the threshold requirements for categorization (Appendix B) for which a Final Report, including the root cause and corrective actions, have been approved by DOE. The candidates for Roll-Up Reports must have the same causal factors and corrective actions identified in the final approved report. This type of Roll-Up Report is permitted only when all the following conditions are met:
 - a. A Final Report has been approved by the DOE Facility Representative and DOE Program Manager, including the corrective action(s) and associated schedules for implementation.
 - b. Similar occurrences with the same root cause and corrective actions occur in the time between the approval of the original Occurrence Report and completion of the corrective actions identified therein.

Subject: Occurrence Notification and Reporting
--

APPENDIX C**Page 2 of 2**

- c. The DOE Facility Representative and DOE Program Manager must concur and agree to include these occurrences in a Roll-Up Report. EM-76 must concur for transportation reports.
- d. Notification of the new occurrence is completed through the issuance of a Notification Report that references the previous report.
- e. The Facility Representative agrees to the addition of each subsequent occurrence to the Roll-Up Report.
- f. The notification of the added occurrence is made through the issuance of an Update Report within the normal time period required for issuance of a Notification Report, changing Field #4, "Number of Occurrences", appropriately.
- g. Once the original approved Final Report corrective actions are completed (e.g., new system is installed and operating), a Final Report must be submitted for any open Roll-Up Reports referencing this original Occurrence Report as justification for a Roll-Up Report. This original approved Final Report cannot be used as the basis for future Roll-Up Reports, i.e., subsequent occurrences must be reported individually in compliance with this Manual.

As an example, a facility experiences a failure of a Continuous Air Monitor, which is a Safety Class component, and prepares Notification and Final Reports. The root cause was an inadequate design unable to maintain the sample paper in the location necessary for obtaining a representative air sample. The corrective action is the redesign and installation of a new bracket on the filter housing. Since DOE line management has been made aware of the problem through the initial report and has agreed to the corrective action, subsequent identical failures on identical pieces of equipment with this same root cause (i.e., same design flaw), which are reported in the interval between approval of the initial Final Report and completion of the corrective action, may be included in a Roll-Up Report (if agreed to by the responsible Facility Representative and Program Manager).

B. Roll-Up Report Instructions

A Roll-Up Report may remain open for a period not to exceed 90 calendar days from categorization of the first occurrence reported therein or when the number of occurrences reported equals 30. Once either of those limits is reached, a Final Report must be reviewed for classified, Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), and Unclassified Sensitive (U-S) information and submitted.

If after initial roll-up of an occurrence, the causes and corrective actions of that occurrence are found to be different than originally thought, then that specific occurrence will be deleted from the Roll-Up Report through the submittal of an Update Report followed by the submittal of a new Occurrence Report.

Subject: Occurrence Notification and Reporting
--

APPENDIX D
Occurrence Report Template
Page 1 of 12

I. General

The following instructions apply to the reporting of occurrences via hard copy or the electronic data base, the Occurrence Reporting and Processing System (ORPS). All reports containing classified, Unclassified National Security Related (UNSR), Unclassified Controlled Nuclear Information (UCNI), or Unclassified Sensitive (U-S) shall be submitted in hard copy in accordance with established requirements contained in the LMES "*Manual for the Protection and Control of Classified Matter and Other Protected Information*" (FS/PSO-1).

The numbers on the specific report items correspond with the numbers in the Occurrence Report format. All fields with an asterisk (*) preceding them are required for all (notification, update, and final) reports. Fields marked with a pound sign (#) are required under certain conditions, for example, depending on occurrence type, report type, or the answer to a previous question.

Items 1 through 19 and Item 25 of the Occurrence Report are required for the Notification Report. Data may be entered in the other fields as appropriate. For the Update Report and Final Reports, information on the Notification Report shall be retained and updated as better information becomes available. The DOE Facility Representative and Program Manager may provide comments in Items 34 and 35, respectively, for all reports.

Occurrences reported under Groups 1 (Facility Condition) and 4 (Personnel Radiation Protection) are of special significance to nuclear safety. Therefore, Final Reports for occurrences at nuclear facilities within these groups shall contain a thorough narrative discussion of all the items listed below and in particular, Item 27.

II. Occurrence Report Items

A. Facility/Personnel Information

1. *NAME OF FACILITY. Enter the name of the facility where the occurrence took place.
2. *FACILITY FUNCTION. Enter the type of facility or the activity/function performed by the facility. Only one function can be selected. Possible entries and their corresponding ESAMS facility function codes (in parentheses) are listed below.
 - a. Plutonium Processing and Handling (01)
 - b. Special Nuclear Materials Storage (02)
 - c. Explosive (03)
 - d. Uranium Enrichment (04)
 - e. Uranium Conversion/Processing and Handling (05)
 - f. Irradiated Fissile Material Storage (06)
 - g. Reprocessing (07)
 - h. Nuclear Waste Operations (08)
 - i. Tritium Activities (09)
 - j. Fusion Activities (10)
 - k. Environmental Restoration Operations (11)
 - l. Category "A" Reactors (12)
 - m. Category "B" Reactors (13)
 - n. Solar Activities (14)
 - o. Fossil and Petroleum Reserves (15)
 - p. Accelerators (16)
 - q. Balance-of-Plant (e.g., offices, machine shops, site/outside utilities, safeguards/security, and transportation) (99)

Subject: Occurrence Notification and Reporting
--

APPENDIX D**Page 2 of 12**

3. *NAME OF LABORATORY, SITE, OR ORGANIZATION. Enter the name of the laboratory, site, or organization. If ORPS is being used, the laboratory, site, or organization and, in addition, the name of the DOE contractor for the facility will be automatically provided by the computer.
4. *FACILITY MANAGER/DESIGNEE. Enter the name, title, and telephone number of the Facility Manager or designee who has direct line responsibility for operation of the facility. If ORPS is being used, enter the name, title, and telephone number of the responsible Facility Manager or designee who approved this report, either by personally transmitting the electronic Report or by signing the hard copy report.

NOTE: ORPS will not automatically enter the name of the Facility Manager in this field.

5. *ORIGINATOR/TRANSMITTER. Enter the name, title, and telephone number of the person who originated this report. This is the person who gathers the information and is most knowledgeable about the event. If ORPS is being used, the name of the transmitter will automatically be entered by the computer when the report is uploaded. If there is not a signed, hard-copy Final Report on file, the report must be transmitted by the Facility Manager or designee.
6. #AUTHORIZED CLASSIFIER. For facilities where classified operations are conducted and classified information is generated, enter the name of the Authorized Classifier who determined that the report was unclassified and the date of the determination.

B. Specific Report Items.

1. *OCCURRENCE REPORT NUMBER. Enter an alphanumeric designation that identifies the DOE Field Office (ORO), area office (not applicable to ORO), DOE contractor or laboratory involved (LMES), facility, the calendar year of the occurrence, and sequential number of the occurrence by facility. If ORPS is being used, the Occurrence Report number will be automatically generated. An example is ORO--LMES-K25GENLAN-1995-0005.
2. *REPORT TYPE AND DATE. Check the block that identifies the type of Occurrence Report being submitted. Use an Update Report for recategorization of an occurrence. Possible entries and their corresponding ESAMS action codes (in parentheses) are:

Notification Report (WN)
Update Report (UP)
Final Report (FR)

- a. Items 1 through 19 and Item 25 of the Occurrence Report are required for the Notification Report, which remains a part of subsequent Occurrence Reports.
- b. All dates and the time of the Notification Report submission are computer generated. The date that the report is entered into the ORPS data base is the Occurrence Report's submission date.
- c. For hard-copy reports, show all dates. That is, for a Final Report, this block must show the submission dates of the Notification Report, latest Update Report, and Final Report.

Subject: Occurrence Notification and Reporting
--

APPENDIX D**Page 3 of 12**

- d. To cancel an Occurrence Report, check the block under Report Type for Final Report as well as the block for canceled under occurrence category (Item 3 below). Canceled reports must be finalized and go through the same approval process as all other Occurrence Reports; however, Items 20 through 35 are not required fields for canceled reports and, once it is signed by the DOE Facility Representative and Program Manager, the Occurrence Report will be removed from the active data base.
3. *OCCURRENCE CATEGORY. Indicate which category has been determined for the occurrence. Only one category can be selected. Possible entries and their corresponding ESAMS category codes (in parentheses) are:
- Emergency (1)
Unusual (2)
Off-Normal (3)
Canceled (V)
4. *NUMBER OF OCCURRENCES. Enter the number of occurrences included in this report. The number will always be one unless the occurrences meet the specific criteria for Roll-Up Reports for Off-Normal Occurrences (Appendix J). If the occurrences meet those criteria, be sure to change this field each time additional occurrences are added.
- #ORIGINAL OCCURRENCE REPORT. For Roll-Up Reports with an approved Final Report, enter the Occurrence Report number for the original occurrence that is on the ORPS data base as an approved Final Report.
5. *DIVISION OR PROJECT. Identify the project or the contractor organization responsible for the facility at which the occurrence took place.
6. *DOE SECRETARIAL OFFICE. Identify the DOE Secretarial Office to which this facility is operationally responsible. Only one Secretarial Office can be selected. If the facility is operationally responsible to more than one Secretarial Office, enter the Secretarial Office that is most directly involved in the specific work activity during which the occurrence took place.

Possible entries are listed below.

DP - Defense Programs
EE - Energy Efficiency and Renewable Energy
EH - Environment, Safety and Health
EI - Energy Information Administration
EM - Environmental Management
ER - Energy Research
FE - Fossil Energy
HR - Human Resources and Administration
NE - Nuclear Energy
NN - Nonproliferation and National Security
RW - Civilian Radioactive Waste Management

Subject: Occurrence Notification and Reporting
--

APPENDIX D**Page 4 of 12**

7. *SYSTEM, BUILDING, OR EQUIPMENT. Identify the systems, equipment, or structural items involved in the occurrence, as applicable. In addition, in the case of component failures or defective parts or materials, provide such information as the manufacturer, model number, size. The most significant item(s) should be listed here. Additional information can be provided in the Description of Occurrence (Item 16).
8. *UNCLASSIFIED CONTROLLED NUCLEAR INFORMATION. When required and when appropriate UCNI guidance is available, a reviewing official shall make a final determination that the report contains (enter "Y" for Yes) or does not contain (enter "N" for No) UCNI. Where appropriate UCNI guidance is not available, a Reviewing Official shall make a preliminary review determination that the report may contain UCNI (still enter "Y" for Yes) or does not contain (enter "N" for No) UCNI.
9. #PLANT AREA. Indicate the name of the site-specific plant area (e.g., Protected Area, Sanitary Landfill) where the occurrence took place (20 characters or less).
10. *DATE AND TIME OCCURRENCE WAS DISCOVERED. Enter the date and time when the facility supervision discovered the event or condition being reported.
11. *DATE AND TIME OCCURRENCE WAS CATEGORIZED. Enter the date and time the Facility Manager determined that the event or condition constituted a reportable occurrence and determined its category (Emergency, Unusual, or Off-Normal Occurrence).
12. #DOE NOTIFICATION. Enter the name of the DOE HQ Coordinator and the date and time when the DOE HQ EOC was notified. This field is not required for occurrences that are categorized as off-normal.
13. #OTHER NOTIFICATIONS. Enter the name(s), organization(s), date(s), and notification time(s) of State and local officials or other agencies. Additional information can be provided in the Immediate Actions Taken and Results field (Item 19).
14. *SUBJECT OR TITLE OF OCCURRENCE. Enter a brief title or description (140 characters or less) of the nature, cause, and result of the occurrence. If the occurrence involved an Unreviewed Safety Question, the acronym "USQ" shall be placed at the end of the Subject or Title of Occurrence. If the report is a Roll-Up Report, include "Roll-Up" in the title.
15. *NATURE OF OCCURRENCE. Enter the nature(s) of the occurrence. As many as three selections can be made. Possible entries and their corresponding ESAMS occurrence type codes (in parentheses) are listed below.
 - (1) Facility Condition
 - (1A) Nuclear Criticality Safety
 - (1B) Fires/Explosions
 - (1C) Safety Status Degradation
 - (1D) Loss of Control of Radioactive Material/Spread Contamination (Appendix K)
 - (1E) Vital Structure/System/Component Degradation
 - (1F) Violation/Inadequate Procedures
 - (1G) Unsatisfactory Surveillance/Inspections
 - (1H) Operations

Subject: Occurrence Notification and Reporting
--

APPENDIX D**Page 5 of 12**

- (2) Environmental (Appendix J)
 - (2A) Radionuclide Releases
 - (2B) Release of Hazardous Substances/Regulated Pollutants/Oil
 - (2C) Hazardous Material Contamination
 - (2D) Ecological Resources
 - (2E) Agreement/Compliance Activities
- (3) Personnel Safety
 - (3A) Occupational Illness/Injuries
 - (3B) Vehicular/Transportation Accident
 - (3C) Safety Concerns
- (4) Personnel Radiation Protection (Appendix K)
 - (4A) Radiation Exposure
 - (4B) Personnel Contamination
- (5) Safeguards/Security
 - (5A) Criminal Acts
 - (5B) Unaccounted for Classified Matter/Compromised Information
 - (5C) Substance Abuse
 - (5D) Intelligence Activities
 - (5E) Security Computer Equipment/Systems
 - (5F) Unplanned/Unscheduled Outage of Site Security System
 - (5G) Demonstrations/Protests
 - (5H) Firearms
 - (5I) Other Security Concerns
 - (5J) Material Control and Accountability
- (6) Transportation
- (7) Value Basis Reporting
 - (7A) Cost Based
 - (7B) Defective Item, Material, or Service
- (8) Facility Status
 - (8A) Facility/Process/Activity Terminating/Curtailing Operations
 - (8B) Facility/Process/Activity Shutdown Extension
 - (8C) New Facility/Process Startup Delay
- (9) Nuclear Explosive Safety

Subject: Occurrence Notification and Reporting
--

APPENDIX D
Page 6 of 12

(10) Cross-Category Items

- (10A) Collectively Significant Related Occurrences
- (10B) Near Miss Occurrences
- (10C) Potential Concerns/Issues

16. *DESCRIPTION OF OCCURRENCE. Enter a clear, concise, objective description of what happened and what was observed. To the maximum extent possible, a sequence of events should be provided. The type of information to be provided in the description includes all of, but is not limited to, the following:

- a. The method of discovery.
- b. Any component failures and the failure modes.
- c. Any personnel errors involved, including the type and result of the error.
- d. Any procedure problem encountered.
- e. The response of any automatic or manual safety systems and the signals which initiated and terminated their operation.
- f. The duration of any failures.
- g. Operator actions that affected the course of events.
- h. The loss of any safety equipment.
- i. For contamination events, the information described in Appendix K.

When appropriate for clarification, photos, sketches, or drawings should be attached. Other documents such as investigation reports, NOV's, environmental enforcement action, and formal root cause analysis reports should also be attached. If ORPS is used, all photos, sketches, or drawings should be referenced as attachments to the Occurrence Report, with specifics as to where or from whom they can be obtained.

The contractor should, to the extent possible, avoid the use of plant-specific terms and acronyms. When used, such terms should be clearly defined.

17. *OPERATING CONDITIONS OF FACILITY AT TIME OF OCCURRENCE. Describe the operational status of the facility or equipment at the time of the occurrence including, for example, pertinent temperatures, pressures, or other parameters necessary for evaluation of the occurrence and its consequences. If said information is not applicable, enter "Does not apply."
18. *ACTIVITY CATEGORY. Enter one of the following activities, using the appropriate ESAMS activity category codes (in parentheses), that best describes the ongoing activity at the time of the occurrence.
- a. Construction (CN)
 - b. Maintenance (MT)
 - c. Normal Operations (NO)
 - d. Start-up (SU)
 - e. Shutdown (SD)
 - f. Facility/System/Equipment Testing (ET)
 - g. Training (TR)
 - h. Transportation (TP)
 - i. Emergency Response (ER)
 - j. Inspection/Monitoring (IM)
 - k. Facility Decontamination/Decommissioning (FD)

Subject: Occurrence Notification and Reporting
--

APPENDIX D**Page 7 of 12**

19. *IMMEDIATE ACTIONS TAKEN AND RESULTS. Describe the immediate or remedial actions taken to return the facility, system, or equipment item to service; to correct or alleviate the anomalous condition; and to record the results of those actions. These may include temporary measures to keep the facility in a safe standby condition or to permit continued operation of the facility without compromising safety until a more thorough investigation or permanent solution can be effected. For contamination events, include the information described in Appendix K.
- 20.–22. #CAUSE. This must be thoroughly addressed as the information becomes available. Enter into ESAMS the cause(s) that best describes the apparent root, direct and contributing cause(s), if applicable. Only one direct and root cause may be entered, but up to three contributing causes may be entered. In the final evaluation of a reportable occurrence, there must be complete consideration of the cause, including contributory factors, with analysis to show what cause was root to the occurrence and what causes were only contributory. In conducting evaluations of the occurrence to determine the root cause, the critiques and analyses described in DOE-NE-STD-1004-92 should be used. The possible entries are the same for all three cause fields. The direct, contributing, and root causes of reportable occurrences are classified into seven broad categories and various subcategories. The seven categories of causes and their associated subcategories are as follows:

EQUIPMENT/MATERIAL PROBLEM. An event or condition resulting from the failure, malfunction, or deterioration of equipment or parts, including instruments or material.

- a. DEFECTIVE OR FAILED PART. A part/instrument that lacks something essential to perform its intended function.
- b. DEFECTIVE OR FAILED MATERIAL. A material defect or failure.
- c. DEFECTIVE WELD, BRAZE, OR SOLDERED JOINT. A specific weld/joint defect or failure.
- d. ERROR BY MANUFACTURER IN SHIPPING OR MARKING. An error by the manufacturer or supplier in the shipping or marking of equipment.
- e. ELECTRICAL OR INSTRUMENT NOISE. An unwanted signal or disturbance that interferes with the operation of equipment.
- f. CONTAMINANT. Failure or degradation due to radiation damage or foreign material such as dirt, crud, or impurities.
- g. END OF LIFE FAILURE. A failure where the equipment or material is run to failure and has reached its end of design life.

PROCEDURE PROBLEM. An event or condition that can be traced to the lack of a procedure, an error in a procedure, or a procedural deficiency or inadequacy.

- a. DEFECTIVE OR INADEQUATE PROCEDURE. A procedure that either contains an error or lacks something essential to the successful performance of the activity.
- b. LACK OF PROCEDURE. No written procedure was in place to perform the activity.

Subject: Occurrence Notification and Reporting
--

APPENDIX D
Page 8 of 12

PERSONNEL ERROR. An event or condition due to an error, mistake, or oversight.

- a. **INATTENTION TO DETAIL.** Inadequate attention to the specific details of the task.
- b. **PROCEDURE NOT USED OR USED INCORRECTLY.** The failure to use or the inappropriate use of written instructions, procedures, or other documentation.
- c. **COMMUNICATION PROBLEM.** Inadequate presentation or exchange of information.
- d. **OTHER HUMAN ERROR.** Human error other than those described above.

DESIGN PROBLEM. An event or condition that can be traced to a defect in design or other factors related to configuration, engineering, layout, tolerances, calculations, etc.

- a. **INADEQUATE WORK ENVIRONMENT.** Inadequate design of equipment used to communicate information from the facility to a person (e.g., displays, labels, etc.) as well as inadequate work environment, such as inadequate lighting, working space, or other human factor considerations.
- b. **INADEQUATE OR DEFECTIVE DESIGN.** A design in which something essential was lacking (defective) or when a detail was included but was not adequate for the requirement (inadequate).
- c. **ERROR IN EQUIPMENT OR MATERIAL SELECTION.** A mistake in the equipment or material selection only, not to include a procurement error (see Personnel Error - (d) Other Human Error) or a specification error (see Design Problem - (d) Drawing, Specification, or Data Errors).
- d. **DRAWING, SPECIFICATION, OR DATA ERRORS.** An error in the calculation, information, or specification of a design.

TRAINING DEFICIENCY. An event or condition that can be traced to a lack of training or insufficient training to enable a person to perform a desired task adequately.

- a. **NO TRAINING PROVIDED.** A lack of appropriate training.
- b. **INSUFFICIENT PRACTICE OR HANDS-ON EXPERIENCE.** An inadequate amount of preparation before performing the activity.
- c. **INADEQUATE CONTENT.** The knowledge and skills required to perform the task or job were not identified.
- d. **INSUFFICIENT REFRESHER TRAINING.** The frequency of refresher training was not sufficient to maintain the required knowledge and skills.
- e. **INADEQUATE PRESENTATION OR MATERIALS.** The training presentation or materials were insufficient to provide adequate instruction.

Subject: Occurrence Notification and Reporting
--

APPENDIX D
Page 9 of 12

MANAGEMENT PROBLEM. An event or condition that can be directly traced to managerial actions or methods.

- a. **INADEQUATE ADMINISTRATIVE CONTROL.** A deficiency in the controls in place to administer and direct activities.
- b. **WORK ORGANIZATION/PLANNING DEFICIENCY.** A deficiency in the planning, scoping, assignment, or scheduling of work.
- c. **INADEQUATE SUPERVISION.** Inadequate techniques used to direct workers in the accomplishment of tasks.
- d. **IMPROPER RESOURCE ALLOCATION.** Improper personnel or material allocation resulting in the inability to successfully perform assigned tasks.
- e. **POLICY NOT ADEQUATELY DEFINED, DISSEMINATED, OR ENFORCED.** Inadequate description, distribution, or enforcement of policies and expectations.
- f. **OTHER MANAGEMENT PROBLEM.** A management problem other than those defined above.

EXTERNAL PHENOMENA. An event or condition caused by factors that are not under the control of the reporting organization or the suppliers of the failed equipment or service.

- a. **WEATHER OR AMBIENT CONDITION.** Unusual weather or ambient conditions, including hurricanes, tornadoes, flooding, earthquake, and lightning.
- b. **POWER FAILURE OR TRANSIENT.** Special cases of power loss that are attributable to outside supplied power.
- c. **EXTERNAL FIRE OR EXPLOSION.** An external fire, explosion, or implosion.
- d. **THEFT, TAMPERING, SABOTAGE, OR VANDALISM.** Theft, tampering, sabotage, or vandalism that could not have been prevented by the reporting organization.

RADIOLOGICAL/HAZARDOUS MATERIAL PROBLEM. An event related to radiological or hazardous material contamination that cannot be attributed to any of the other causes.

- a. **LEGACY CONTAMINATION.** Radiological or hazardous material contamination attributed to past practices.
- b. **SOURCE UNKNOWN.** Radiological or hazardous material contamination where the source cannot be reasonably determined.

Subject: Occurrence Notification and Reporting
--

APPENDIX D
Page 10 of 12

Specific information pertaining to each cause field; 20, 21, and 22, is as follows.

20. **#DIRECT CAUSE.** The cause that directly resulted in the occurrence. Enter into ESAMS only one direct cause for the occurrence. One subcategory for the direct cause selected must also be checked. The direct cause is not required for Update Reports; however, it is required for Final Reports.

For example, in the case of a leak, the direct cause could have been the failure in the component or equipment that leaked. In the case of a system misalignment, the direct cause could have been operator error in the alignment.

21. **CONTRIBUTING CAUSES.** The cause(s) that contributed to the occurrence but, that by itself, would not have caused the occurrence. Enter into ESAMS as many as three contributing causes for the occurrence. One subcategory for each of the contributing causes must also be checked. This is not a required field.

For example, in the case of a leak, the contributing cause could be lack of adequate operator training in leak detection and response resulting in a more severe event than would have otherwise occurred. In the case of a system misalignment, the contributing cause could be excessive distractions to the operators during shift, resulting in less than adequate attention to important details during system alignment.

22. **#ROOT CAUSE.** The cause that, if corrected, would prevent recurrence of this and similar occurrences. The root cause does not apply to this occurrence only, but has generic implications to a broad group of possible occurrences, and it is the most fundamental aspect of the cause that can logically be identified and corrected. There may be a series of causes that can be identified, one leading to another. This series should be pursued until the most fundamental, correctable cause has been identified. Check only one root cause for the occurrence. One subcategory for the root cause selected must also be checked. The root cause is not required for Update Reports; it is, however, required for Final Reports.

For example, in the case of a leak, the root cause could be a failure of management to ensure that maintenance is effectively managed and controlled. This cause could have led to the use of improper seal material or missed preventive maintenance on a component, which ultimately led to the failure. In the case of a system misalignment, the root cause could be failure in the training program, leading to a situation in which operators are not fully familiar with control room procedures and are willing to accept excessive distractions.

23. **#DESCRIPTION OF CAUSE.** Discuss the cause of the occurrence to include root, direct, and contributing causes, if applicable, and the corrective actions identified. Do not repeat a description of the occurrence but discuss the results of the causal analysis. The root cause analysis methodology used shall be identified. A detailed description of the corrective actions is required to demonstrate that the identified actions will adequately address the cause(s) of the problem.

For example, if a procedural deficiency was identified, it would not be sufficient to state simply that the procedure was revised. An explanation is required regarding why the deficiency was not identified during the review and approval process (to the extent possible); how the procedure was subsequently revised; and how the revision, in conjunction with any other corrective actions, addresses the cause of the problem.

Subject: Occurrence Notification and Reporting
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APPENDIX D
Page 11 of 12

When appropriate, separate documentation for the root cause analysis may be attached. If ORPS is being used, the separate documentation should be referenced as attachments to the Occurrence Report, with specifics as to where or from whom they can be obtained.

This field is not required for Update Reports; it is, however, required for Final Reports.

24. **#EVALUATION BY FACILITY MANAGER.** With the information available, the Facility Manager should provide his or her evaluation of the occurrence and its effect or possible effect on the plant, system, program, etc. in the Update Report. The Facility Manager may later supplement this evaluation with additional entries in Update Reports or in the Final Report. This field is required on a Notification Report if the responses to Item 25, Is Further Evaluation Required, are "Yes," further evaluation is required, and "Yes," the evaluation is required before further operation.
25. ***IS FURTHER EVALUATION REQUIRED?** Check "Yes" or "No." This is a required field on all reports. This response should not be "Yes" in a Final Report since further evaluation could change the root cause or identify additional corrective actions.

If further evaluation is required, then "Yes" or "No" must be checked as to whether that evaluation is required before further operation.

If further evaluation is required before further operation (i.e., both "Yes" blocks checked), then who will take the action (a person's title or a specific organizational unit) and a date when the action will be taken must be provided. Item 24 should be completed if "Yes" is checked in both blocks.

26. **#CORRECTIVE ACTIONS.** List all actions identified to correct the problem that, when completed, will prevent recurrence. The first two lines of each corrective action should be a title or summary of the corrective action. In addition, provide actual or target completion dates for all of the corrective actions listed.

For similar occurrences previously documented in an approved Final Report, as discussed in Appendix I, the corrective action narrative should state, "The corrective actions are the same as those stated in the original approved Final Report" and provide the original approved Final Report number; the corrective action target date should be the latest target date on the original approved Final Report; and the corrective action completion date should be the final actual completion date for all of the corrective actions (i.e., the field will remain empty until completion of all of the corrective actions).

This field is not required for Update Reports; however, it is required for Final Reports.

27. **#IMPACT ON ENVIRONMENT, SAFETY, AND HEALTH.** Provide an assessment of the environment, safety, and health consequences and implications of the occurrence. Describe the impact of the occurrence on the environment, safety, and health of workers, the public, and onsite/offsite environs. This should include amounts and types of hazardous or radioactive materials released, levels and types of contamination, exposure levels of workers and the public, and known or projected environmental, safety, and health impacts. This assessment may be based on existing conditions. The evaluation must be carried out to the extent necessary to fully assess the safety consequences and safety margins associated with the occurrence.

Subject: Occurrence Notification and Reporting
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APPENDIX D
Page 12 of 12

For an occurrence related to nuclear safety, an assessment of the occurrence under alternative conditions must also be included if the occurrence could have been more severe (e.g., the facility would have been in a condition not analyzed in the Safety Analysis Report) under reasonable and credible alternative conditions such as power level or operating mode.

For example, if the occurrence happened while the facility was at 15 percent power and the same occurrence could have taken place while the facility was at 100 percent power, and, as a result, the environment, safety, or health consequences would have been considerably more serious, the assessment must describe those conditions and consequences.

For contamination events, include the information described in Appendix K.

This field is not required for Update Reports; it is, however, required for Final Reports.

28. **#PROGRAMMATIC IMPACT.** Describe the impact of the occurrence on the program or project affected. This could be a loss of data, loss of plant availability for a specified period, additional costs, schedule delays, or other measurable consequences of the occurrence.

This field is not required for Update Reports; it is, however, required for Final Reports.

29. **#IMPACT UPON CODES AND STANDARDS.** If the occurrence affects the requirements of national codes and standards, program standards, or DOE Orders, a statement regarding the adequacy of the codes or standards should be provided, along with any recommended changes.

This field is not required for Update Reports; it is, however, required for Final Reports.

30. **#LESSONS LEARNED.** Include any lessons learned from the occurrence that could be of importance to other facility operators or that should be addressed in personnel training or facility procedures.

This field not required for Update Reports; it is, however, required for Final Reports.

31. **#SIMILAR OCCURRENCE REPORT NUMBERS.** Indicate by their report numbers any similar occurrence(s) of which you are aware for this or other facilities. Also, identify any known commercial reactor Licensee Event Reports or other related documents that describe similar occurrences. The purpose of this item is to identify, if recognized, occurrences that might suggest a generic problem that may result in single or common lessons learned.

This field not required for Update Reports; it is, however, required for Final Reports.

32. **USER-DEFINED FIELD #1.** This optional field can be used by the Facility Manager to store facility-specific information (e.g., a cross-reference to performance indicator data).

33. **USER-DEFINED FIELD #2.** This optional field can be used by the Facility Manager to store additional facility-specific information (e.g., a cross-reference to a site-specific number or name).

Subject: Occurrence Notification and Reporting

APPENDIX E
Occurrence Report Route Slip for Update Report
Page 1 of 1

(EXAMPLE)

Occurrence Report Number: _____

Title: _____

Date of Occurrence: _____

Update Due Date: _____

Classification: _____

ADC, Classification/TIO, or UCNI Review: _____ Date: _____

Printed Name/Signature

Date Received

Date Reviewed

- | | | |
|---|-------|-------|
| 1. _____
Facility Manager Designee | _____ | _____ |
| 2. _____
Facility Manager | _____ | _____ |
| 3. _____
ORS Representative | _____ | _____ |
| 4. _____
Occurrence Reporting Center | _____ | _____ |

Please forward this document for approval signatures and contact
the Occurrence Reporting Center for transmittal

Subject: Occurrence Notification and Reporting

APPENDIX F
Occurrence Report Route Slip for Final Report
Page 1 of 1

(EXAMPLE)

Occurrence Report Number: _____ Category: _____

Title: _____

Date of Occurrence: _____

Final Report Due Date: _____

This report has been reviewed by an Authorized Derivative Classifier and has been determined to be UNCLASSIFIED.
This review does not constitute clearance.

ADC, Classification/TIO, or UCNI Reviewer: _____ Date: _____

	Signature	Date Received	Date Reviewed
1.	_____ Occurrence Report Preparer	_____	_____
2.	_____ Line/Operations Manager	_____	_____
3.	_____ Facility Manager	_____	_____
4.	_____ Technical Information Officer	_____	_____
5.	_____ Y-12 Plant Manager or Designee	_____	_____
6.	_____ Y-12 ORPS Center	_____	_____

Signatures appearing on this form indicate review of the Final Report and are not a record of approval or concurrences. The Facility Manager's signature on the Occurrence Report and the Plant Manager's signature on the cover letter are the record of approval.